THE TWENTY-SECOND YEAR.

THE

Companion to the Almanac;

OR,

YEAR-BOOK

OF

GENERAL INFORMATION

FOR

1849.

CONTAINING,

I. GENERAL INFORMATION ON SUBJECTS

OF

MATHEMATICS, NATURAL HISTORY,

AND

PHILOSOPHY,

CHRONOLOGY, GEOGRAPHY, STATISTICS, &c.

II. THE LEGISLATION, STATISTICS, PUBLIC IMPROVEMENTS, AND CHRONICLE OF 1848.

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COMPANION TO THE ALMANAC

FOR

1849.

PART I.

GENERAL INFORMATION ON SUBJECTS OF MATHEMATICS, NATURAL PHILOSOPHY AND HISTORY, CHRONOLOGY, GEOGRAPHY, STATISTICS, &c.

I.—SHORT SUPPLEMENTARY REMARKS ON THE FIRST SIX BOOKS OF EUCLID'S ELEMENTS.

THE following short annotations are intended as suggestions to teachers, or to learners who are proceeding without a teacher: many other remarks might be added. Discussion is avoided, and matters of opinion are given, for brevity, in the short and peremptory form of memoranda, which may occasionally lead to some faults of language. Simson's Euclid is used, as being the basis of most modern English editions. The letters are the same in all editions of Simson, and in many others, particularly in Williamson's *real translation* of Euclid. The order of the English alphabet is substituted for that of the Greek; thus, A B Γ Δ E Z H Θ, &c. in Euclid are A B C D E F G H, &c. in Simson and others. All the annotations here given are strictly of that character; they propose no alteration in the fundamental part of any one of Euclid's methods. The reader may consult with these comments the various geometrical words in the Penny Cyclopædia; or *Eucleides* in Dr. Smith's Biographical Dictionary, on matters connected with editions.

BOOK I. *Definitions.* Of these iii, vi, xiii, are obvious statements, but not definitions of words; viii, xxvi, xxxi to xxxiv, are never subsequently used; xviii, if semicircle have its etymological meaning, as seems the intention, is a theorem, which ought to be III. 1. The remaining definitions are of two kinds: first, those which do not explain their terms, but demand a notion already existing in the student's mind; they are, i, ii, iv, v, vii, ix: secondly, purely verbal definitions; they are, x, xi, xii, xiv to xvii, xix to xxx, and xxxv. Insist on angle as a *magnitude*: on the comparison of angles as to greater, equal, or less, by superposition; on the rights of angles equal to and greater than two right angles. The angle made by a straight line with its own continuation is a definite angular magnitude;

and its half is the best definition of a right angle. It is to be regretted that there is no single phrase for "two right angles."

Postulates and *Axioms*: in Euclid, *postulates* and *common notions*. All *geometrical* demands are *postulates* in Euclid; *his* axioms or common notions are in every instance notions common to all kinds of magnitude as well as space magnitudes. Restore this: that is, let the postulates be, Simson's postulates and axioms x, xi, xii; but instead of xi, substitute "if two right lines coincide in two points, they coincide when produced," as more self-evident. From this it is seen that the doubles of all right angles are equal, and thence that all right angles are equal; and this should come between I. 12 and I. 13, as a proof of the theorem "all right angles are equal." For xii substitute "two lines which cut one another are not *both* parallel to any third line," from which, after I. 28, prove Simson's axiom xii as a theorem. Remark that the distinction of postulate and axiom, as *problem* and *theorem*, could not have been Euclid's notion, for he does not recognise the last distinction; both are with him simply propositions. The expressed six postulates of Euclid are not the only ones which occur; others are tacitly adopted, as will presently appear. Nothing should be tacitly assumed by those who will not assume * without express statement, that "two straight lines cannot inclose a space."

I. 1. The following postulates are demanded: "if two figures which have one or more points in common have each a point which is not in the other, the boundaries of those figures must cut," and "every point is within or without a circle, according as its distance from the centre is more or less than the radius." With less, the intersection of the circles cannot be proved. I. 2, 3. Insist here upon the restrictions imposed by the first three postulates, which do not allow a circle to be drawn with a compass-carried distance; suppose the compasses to close of themselves the moment they cease to touch the paper. These two propositions extend the power of construction to what it would have been if *all* the usual power of the compasses had been assumed: they are mysterious to all who do not see that postulate iii does not ask for *every use of the compasses*. I. 4. This postulate is assumed, "any figure may be removed from place to place without alteration of form, and a plane figure may be turned round on the plane." But for this right to turn, I. 4 would not prove I. 5. I. 5. Euclid's construction is necessary only for the part relat-

* Simson, defending I. 22, for not proving the intersection of the circles, says, "Who is so dull as not to perceive," &c. He admits then tacit postulates, which any one could not fail to see; but who is so dull as not to perceive that two straight lines cannot inclose a space?

ing to external angles; for the rest the triangle might be turned round, set down on the plane, and I. 4 applied to the original and removed forms. I. 6. This is never wanted till after it might be readily proved again with I. 19. I. 7 would be made more easy to beginners if they were first familiarized, as a common notion, with "if two magnitudes be equal, any magnitude greater than the one is greater than any magnitude less than the other." I. 9. Of this I. 11, which is "to bisect the angle made by a straight line and its continuation" should be a particular case; the constructions are the same. I. 12. These postulates are assumed:—"if one point be taken on each side of an indefinitely extended straight line, any line which joins the two must cut the straight line;" and "if one point of a straight line be inside a figure, the straight line must, if sufficiently produced, cut the figure in two points at least." I. 13. Before this, introduce "all right angles are equal," as above noted. I. 13 and I. 14 are mere consequences of Euclid's refusal to consider the double right angle as a magnitude, in any other point of view than as the sum of its halves. Of O A, O B, O C, he never proves that A O B and B O C are together equal to the two halves of A O C, except when O A and O C are in the same straight line. I. 18, I. 19. The latter of these, and I. 6, is a purely logical consequence of I. 18 and I. 5, following independently of the meaning * of the terms. After I. 21, introduce the following, "The perpendicular is the shortest straight line that can be drawn from a given point to a given line; and of others, that which is nearer to the perpendicular is less than the more remote, and the converse; and not more than two equal straight lines can be drawn from the point to the line, one on each side of the perpendicular." I. 22. The postulates assumed in I. 1 are used again. I. 24. The proof is incomplete. To make it perfect, the following propo sition (easily proved from that following I. 21), should be made to precede; "every straight line drawn from the vertex of a triangle to the base, is less than the greater of the two sides, or than either, if they be equal." I. 25. This (and I. 8, had it not been proved before) are connected with I. 4 and I. 24 in the manner noticed under I. 19. After I. 26 there is an omission which is supplied in the sixth book. This proposition ought to be introduced, "If two triangles have a pair of angles equal, the sides about another pair of angles equal each to each (the opposite of the first to the opposite, and the adjacent to

* If A B C be three propositions, of which one, and one only must be true; and if P Q R be of the same kind; and if A always give P; B, Q; and C, R; then P always gives A; Q, B; and R, C. This is the connecting logical proposition of I. 6 and I. 19 with I. 5 and I. 18.

the adjacent), and the third pair of angles both acute, both obtuse, or one right, the triangles are equal in all respects." I. 27 is a logical equivalent of what is already in I. 16. Before I. 29 introduce proof of Simson's axiom xii from the more simple postulate, as already noted. I. 30 is a logical equivalent of that more simple postulate. The following is much wanted, "If two lines be parallel to two other lines, each to each, the first pair make the same angles as the second;" and this also, "The perpendiculars to two lines make the same angles with one another as the lines themselves." Introduce the definitions of a parallelogram and of a rectangle. Note the alteration of meaning of the word equal at I. 35, which is thenceforward used, as to areas, for equality of area, with or without identity of form. The postulate, "an area taken from an area, leaves the same area from whatever part it may be taken," should be mentioned by a writer who specifies that "two straight lines cannot inclose a space;" it is particularly important as the key to equality of non-rectilinear areas which could not be cut into coincidence geometrically. I. 43. The first proposition in which appear equal areas with unconnected bases; and the foundation of the whole comparison of such areas. Note the manner in which the postulate in I. 35 is used. I. 46. Define the square as a rectangle with equal adjacent sides; extend this proposition to the construction of a rectangle with given sides. Introduce the phraseology of the "rectangle *under* two given lines." Introduce the propositions, "the squares on equal lines are equal," and "equal squares must be on equal straight lines." I. 47. Note the mode of demonstration, namely, that each square is equal to the rectangle under the hypothenuse and the adjacent segment. I. 48. An appearance of avoiding indirect demonstration by drawing the triangles on different sides of the base, and appealing to I. 8, because drawing them on the same side would make the appeal to I. 7 (on which, however, I. 8 is founded).

Book II. Introduce (to avoid confusion) the arithmetical connexion of the rectangle and multiplication, for rectangles of commensurable sides. Prove the existence of incommensurable magnitudes (by the usual example of the side and diagonal of a square), and point out the insufficiency of the arithmetical theory. If this be first done, so as to fix the notion that the propositions of the second book are not arithmetical, the resemblance to algebraical form may be increased with safety, and to the great abbreviation of the demonstrations. As follows: introduce this definition, "When a straight line, or the same produced, is cut in a point, whether internally or externally, the distances of the point of section from the ends of the line

are called segments of the line, internal or external according as the point of section is internal or external." The line is, therefore, the sum of its internal, the difference of its external, segments. Show separately that the difference of internal, or the sum of external, segments, is double of the distance of the points of section and bisection. II. 1. Annex to this the following extension, "If two straight lines be each of them divided into any number of parts, the rectangle under the two lines is made up of all the rectangles under all the parts of the one, taken separately with all the parts of the other." Treat II. 2 and II. 3 as corollaries of the first part of II. 1; worthy of statement, but not needing new demonstration. Demonstrate II. 4, directly from the new part of II. 1, without proving that the smaller squares are *about the diagonal* of the larger one; state it as "the square *on** a line is greater than the sum of the squares on its internal segments by twice the rectangle under those segments." With it, or after it, join II. 7, as "the square on a line is less than the sum of the squares on its external segments by twice the rectangle under those segments." II. 5 and II. 6. Make these corollaries or included cases of "the rectangle under the sum and difference of two lines is equal to the difference of the squares on those lines," which can be easily proved from direct construction of the rectangle and completion of the figure. Then from II. 4 and II. 7, deduce "the square on the sum and on the difference of two lines, are together double of the sum of the squares on those lines," and "the square on the sum exceeds the square on the difference by four times the rectangle under the lines." This last is II. 8; and II. 9 and II. 10 are cases of the first, proved by Euclid in a most ingenious indirect manner. This much of the book is general; the rest is special application. II. 11. An excellent opportunity for comparison of geometry and arithmetic; note the manner in which Euclid gives the most direct construction of the solution of the quadratic equation. II. 12 and II. 13. Take these together, observing the complete analogy of the corresponding steps, a thing impossible while II. 4 and II. 7 remain as left by Euclid. II. 14. Prove the property of the circle first, and apply it afterwards. When the connexion of number and magnitude, and the distinction, are properly attended to as preliminaries, the more the analogies of geometry and algebra are made visible the better; geometry takes no harm and algebra receives some illustration.

Book III. *Definitions.* Simson has noted that i. is a theorem: strange that he should not here have inserted and *proved*

* Use the phrase "the square *on* a line" as helping to establish a distinction (much wanted) between the figure in geometry and the arithmetical square *of* a number.

def. xviii of the first. Defer the definitions of contact, omit that of the angle of a segment (vii), and explain that in "similar segments" the word *similar* is an anticipation, and that similarity* *of form* is meant. This definition is a theorem: or would be if "similar" had taken its final meaning. III. 1. Prove the fundamental theorem "the line which bisects a chord perpendicularly must contain the centre," and then make III. 1, III. 25, and IV. 5 immediate corollaries of it. III. 2. Make this an immediate consequence of the new proposition preceding I. 24, and the circle postulate assumed in I. 1. Introduce and prove that "a straight line cannot cut a circle in more than two points." III. 3. Put this after III. 1, as a converse. III. 5. This equally refers to cutting and touching, and is, in fact, "circles which have the same centre, and one point of circumference common to both, coincide altogether." III. 6. See the last remark. III. 7. There is an unproved assumption; namely, that D E B is greater than D E C, when the hypothesis is only that D F B is greater than D F C. That B cannot fall *within* the triangle F E C, is assumed. Prove it by help of the new proposition preceding I. 24. III. 8. How much Euclid is depending upon the eye for his conclusions is obvious, by the introduction of the terms convex and concave without definition. A line drawn through D, meeting the circle twice, is said to have its intersection nearest to D on the concave side, that furthest from D on the convex. These are two unproved assumptions, namely, that K falls within the triangle D L M, and E without the triangle D F M. Let D E meet M F and M L in Y and Z; then M Y and M Z being each less than the radius, show from the proposition introduced after I. 21, that only one of the points K and E can lie on one side of Y or of Z, and that neither can lie between. III. 9. A logical equivalent of part of III. 7; when it is proved that every *non*-central point is *not* a point from which three equal straight lines can be drawn, then III. 9 is also proved. III. 10. It can be proved directly from IV. 5 placed as above recommended. III. 11, 12, 13. The contact of circles is in a state of confusion in Euclid: there is a positive assumption that the circle which touches internally is entirely within, and that the circle which touches externally is entirely without, the other circle. Leave the *visual* notions of *contact* till they can be otherwise established, and proceed as follows. Circles cut in two points at most:

* Students have sometimes a slight confusion from the common meaning of the word *similar*, which implies likeness of a smaller degree than that expressed by *same*. It would not be contradiction, nor unintelligible, to say, "those colours are not the same, but they are similar." But in mathematics similarity is absolute sameness, and the sameness of the technical term of geometry is sameness of form.

distinguish the case in which there are two *coincidences* (whether contacts or intersections) from that in which there is only one. Then proceed by the following steps, easily proved:— A. If two circles have two coincidences, both cannot be on the line (or line produced) joining the centres. B. Then neither: since, for any coincidence on one side of that line, another can be constructed on the other side. C. By the same construction, when there is only one coincidence, it *is* on the line joining the centres. D. When there is only one coincidence, the one circle is entirely within, or entirely without, the other. E. When there are two coincidences, the circles intersect (shown by help of the postulate assumed in I. 1). III. 17. Note, when the means of proof arrive (which might very well have preceded) the easier construction by drawing a circle on A E. After III. 19, introduce "If two circles have but one coincidence, they have the same tangent at the point of coincidence." III. 20. Extend the proposition to the case in which the angle at the centre is equal to and greater than two right angles: make III. 31 an immediate consequence. III. 21. Bring all the cases under one by means of the extension in the last. III. 22. Make this depend upon the sum of the two central angles being four right angles. III. 25 has preceded, as above noted. III. 26, 27, 28, 29. Put these together, and augment, under the general enunciation, "In equal circles either of the five pairs, arcs, chords, angles at the centre, angles at the circumference, or sectors, being equal, the other four pairs are equal." III. 31. After the extension of III. 20, this is the merest corollary. III. 34. The construction might be made more simple, though Euclid's reason for taking another is not difficult to find. III. 35, 36. After the definition of internal and external segments, as noted in book II, these propositions are one, under the enunciation, "if two chords cut one another, the rectangles under their segments are equal." The want of proper coupling of propositions in book II. prevented this being made apparent. III. 37. The same defect as in I. 48. If D B be not a tangent, produced it cuts, and then the square on D B is shown at once to be the rectangle under D B and a longer line, which is absurd.

Book IV. This book is of no direct use in what follows, and might well be omitted for a time by a learner who wishes to proceed to proportion. The idea of dividing the revolution into equal parts should be made prominent; and the description of regular polygons treated as incidental. The general design is somewhat concealed by the first propositions relating to *any* triangle: it happens that it is as easy to divide the circle into *three* parts which are in the ratio of the angles of a triangle, as into three equal parts. IV. 3 and 4. Euclid

insists that the figure shall be circumscribed, without this limitation, the problem is of a four-fold answer. IV. 5 has been anticipated as before mentioned. IV. 10 is better enunciated as "To divide a right angle into five equal parts," or at least, this effect of the problem should be insisted on. The method of IV. 11 is not so natural as making a direct use of the angle obtained in the last. IV. 12, 13, 14. These propositions supply the place of the following: "Having given a regular polygon of any number of sides inscribed in a circle, to describe the same about the circle: and having given the polygon, to inscribe and circumscribe a circle." The method should be applied generally. Add to this book the following proposition: "Having given a number, no matter how great, to inscribe a regular polygon in a circle which shall have a number of sides greater than that number."

Book V. In development and maintenance of many of the following remarks, the reader may consult the articles *Ratio* and *Proportion* in the *Penny Cyclopædia; Ratio, Composition of*, in the Supplement to that work; and a tract *On the connexion of Number and Magnitude*, by the author of this article. Note that the fifth book is on *magnitude* of any kind, and not on space only: provided that the magnitude be one of those of which we have the power to form multiples, and to compare the multiples of different specimens, with the power of selecting the greater, or affirming equality, if it exist. V. def. iii. *Ratio* is best founded on the notion of *relative magnitude*: but Euclid, who adheres to the etymological meaning of words to the utmost of his power, found the word λόγος established. This means *communication*, and the word which is translated *quantity* ought to have been rendered by *quantuplicity*, referring to the number of times one magnitude is contained in the other. We cannot describe magnitude in language without quantuplicitative reference to other magnitude. The peculiar manner in which the Greeks made a substantive, alone, takes the sense for which the moderns would form a compound,* is seen in ellipse, hyperbola, anomaly, &c. We imagine Euclid's predecessors to have designated the notion on which our *power of communication* depends by the simple name of *communication*; and this rough definition refers to *quantuplicity*, much as that of a straight line refers to *evenly lying*. V. 4. There is nothing about less or greater in Euclid: magnitudes have a ratio when their multiples can exceed one another,

* Euclid himself makes a slight restriction, which confirms our view. The term ἄλογος, "which cannot be expressed," is used by him (book x. definition vii.) not as merely expressing the relation of incommensurability, but that of being incommensurable with the *standard line* which, throughout the book, is the unit of rational (ῥηταί) lines.

meaning when the relation of greater or less can be predicated of their multiples with respect to one another. As this follows when it can be predicated of the quantities themselves, this definition amounts to saying that the magnitudes are of the same species. V. 5. Give a clear view of the existence of incommensurables. Dwell on the fact of a notion of proportion existing in the mind previously to entering on geometry, as evinced by sameness of *relative* magnitude, so far as the eye can judge of it, being demanded by the eye in all front pictures, models, &c. Remember that common sense requires that we should satisfy this notion of proportion, not invent a new one for the occasions of geometry. Point out the manner in which, if all magnitudes were commensurable, finite arithmetical ideas and language would be sufficient for reasoning on proportion; and also that arithmetic itself may be made a science of *ratios*, all abstract numbers (fractions included) being capable of being considered as expressions of ratios. The existence of incommensurables shows that ordinary arithmetic cannot be made the science of *all* ratios. Prove that any magnitude being named, however small, two incommensurable magnitudes may be made commensurable by adding or subtracting to or from either a magnitude less than the magnitude named. Define the *scale of relation* of two magnitudes of the same kind, namely, a list of the multiples of both *ad infinitum*, all arranged in order of magnitude, so that any multiple of either being assigned, the scale of relation points out between which multiples of the other it lies. Point out how this scale must detect commensurability, if it exist; and if it do not exist, how it gives the means of making any required degree of approach to arithmetical expression of one magnitude in terms of the other; by enabling us to assign arithmetical fractions of either, as near to each other as we please, between which the other lies. Further, that when the relative scales of two pair of magnitudes are looked at together, difference of relative magnitude is detected by any one instance in which a multiple of the first is in a place (or interval) among the multiples of the second different from that in which the same multiple of the third is found among the multiples of the fourth. Hence pass to Euclid's *indirect** de-

* Or *negative* definition. That of parallels is another instance: the positive notion is intersection, which *may* be affirmed by examination of one pair of points, one in each line, when it happens that these points coincide. But parallelism is the absence of all intersection, and cannot be affirmed after the examination of any number, how great soever, of pairs of points. The consequence of incommensurability is that, while *dis*proportion (which is here made the positive term) *may* be affirmed upon a settlement of one item of the distributions in the relative scale, proportion can only be reasoned on as the absence of all disproportion.

finition of proportion, consisting in the absence of every positive test of *dis*proportion, as seen in "four magnitudes are proportional when *every* multiple of the first is found in the same position among the multiples of the second, in which the same multiple of the third is found among the multiples of the fourth." *Position* is a somewhat more definite term than interval: thus three different possible positions of 13 A, are, that it should be equal to 20 B, that it should be between 20 B and 21 B, and that it should be equal to 21 B. V. def. vii. The first is to the second in a greater (or less) ratio than the third to the fourth, when a multiple of the first takes a more (or less) advanced position among the multiples of the second, than the same multiple of the third takes among those of the fourth. Proof should be given that the same pair of magnitudes can never offer both tests to another pair; that is, the test of greater ratio from one set of multiples, and that of less ratio from another. V. viii quite unmeaning after vi: perhaps its original place was after iii, as the same rough introduction to proportion, which iii was to ratio. V. def. ix, defines nothing. V. def. x, xi. Omit these until compound ratio has been considered. Impress the notation following; capital letters signify magnitudes, *not numbers* representing them. The following theorems are very useful, and may be introduced here, or as wanted. (1.) If four magnitudes be not in proportion, a multiple of the first may be found which shall lie among the multiples of the second, in a position removed by as many intervals as we please from that in which the same multiple of the third lies among the multiples of the fourth. (2.) If the multiples of the first and third, *from and after any given multiples whatsoever*, be similarly distributed among the multiples of the second and fourth, the four magnitudes are proportional. (3.) If, for any multiple which may be named, a higher multiple of the first can be found, which is in the same position among the multiples of the second, in which the same multiple of the third is among the multiples of the fourth, the four magnitudes are proportional. (4.) Division can be performed upon two *magnitudes* in just the same manner as upon two numbers, and as many places as we please of (perhaps) an interminably significant decimal fraction can be found, from which an approximate expression of the ratio of the two magnitudes may be formed. (5.) If a pair of magnitudes give the same interminable decimal as another pair, the four magnitudes are proportional by Euclid's definition, and the converse.

We cannot enter into the manner in which the demonstrations of the fifth book may be rendered clear by the very simple* artifice of using 2 A, 3 A, &c., as signifying the mul-

* We have before now heard this called an *algebraical* method. But it

tiples of A. But rigorous reasoning does not require adherence to the rude forms which the arithmetic of the Greeks contained. If there be any who do not consider the fifth book an *application of arithmetic to geometry*, we have no ground in common with them.

V. 1, 2, 3, 5, 6. These are simple propositions of concrete arithmetic, covered in language which makes them unintelligible to modern ears. The first, for instance, states no more than that *ten* acres and *ten* roods make *ten* times as much as one acre and one rood. V. 4. The corollary in Simson is only necessary to those who will not admit M into the list M, 2M, 3M, &c.; the exclusion is grammatical,† and nothing else. V. (A). Needless to those who believe *once* A to be a proper component of the list of multiples, in spite of *multus*‡ meaning *many*. V. (B). A very proper insertion. V. 7. On this and various other propositions it should be remarked that their purpose is not only to fill up the links of the chain of demonstration, but to make trial of the definition of proportion, and to certify that this complicated test produces the evident results of the simple and previous notion.

Of the simplification which, without abandoning any one principle of Euclid, may be introduced into the demonstrations, the following is a sample. It is required (V. 18) to show that if A be to B as P to Q, then A+B is to B as P+Q to Q. Whatever multiple of A+B we choose to examine, take the same multiple of A, say 17A, and let it lie between some two multiples of B, say 23B and 24B: then 17P lies between 23Q and 24Q. Add 17B to all the first, and 17Q to all the second; then 17(A+B) lies between 40B and 41B, and 17(P+Q) between 40Q and 41Q; and in the same manner for any other multiples.

The following is the sketch of a proof that, B being any magnitude, and P and Q two magnitudes of the same kind, there does exist a magnitude A, which is to B in the same ratio as P to Q. The right to reason upon any aliquot part of any magnitude is assumed; though, in truth, aliquot parts obtained by continual bisection would suffice: and it is taken as previously proved, that the tests of greater and of less ratio are never both presented in any one scale of relation as compared with another. (1.) If M be to B in a greater ratio than P to Q, so is every magnitude greater than M, and so are

is essential to algebra, in the sense intended, that the letters should signify not magnitudes, but numerical representations of them.

† The ancient Jews might sometimes have needed corollaries of completion for 15A: they could not designate 15 as 10+5, since the letters signifying 10 and 5 made a name of the Deity.

‡ Is *twice* A a multiple of A, etymologically?

some less magnitudes; and if M be to B in a less ratio than P to Q, so is every magnitude less than M, and so are *some greater magnitudes*. Part of this is in every system: the rest is proved thus. If M be to B in a greater ratio than P to Q, say, for instance, we find that 15 M lies between 22 B and 23 B, while 15 P lies before 22 Q. Let 15 M exceed 22 B by Z, then if N be less than M by any thing less than the 15th part of Z, 15 N is between 22 B and 23 B: or N, less than M, is in a greater ratio to B than P to Q. And similarly for the other case. (2.) M can certainly be taken so small as to be in a less ratio to B than P to Q, and so large as to be in a greater; and since we can never pass from the greater ratio back again to the smaller by increasing M, it follows that while we pass from the first designated value to the second, we come upon an intermediate magnitude A, such that every smaller is in a less ratio than P to Q, and every greater in a greater ratio. Now A cannot be in a less ratio to B than P to Q, for then some greater magnitudes would also be in a less ratio; nor in a greater ratio, for then some less magnitudes would be in a greater ratio: therefore A is in the same ratio to B as P to Q. The previously proved proposition above mentioned shows the three alternatives to be the only ones.

The mention of compound ratio only occurs once (in VI. 23, if we regard the definition at the beginning of the book as spurious), and then only as a phrase. A is *said* to have to C the ratio compounded of the ratios of A to B and B to C. We see much to regret in the phrase, and something more, not being of continual application in geometry. Treat ratio as an engine of operation. Let that of A to B suggest the power of altering any magnitude in that ratio. This notion of altering magnitude in a ratio involves the idea of something which is certainly possible, and capable of being pictured as done by an act of the mind, even by those who are not aware that the operation is identical with that which takes place in multiplication by an integer or fractional number; and those who have recourse to ideas of mechanical operation, and lose the notion, deprive geometry of much of its life, and of all its distinct power of representation. Every alteration of a magnitude is alteration in some ratio, two or more successive alterations are jointly equivalent to but one, and the ratio of the initial magnitude to the terminal one is as properly said to be the compound ratio of alteration, as 13 to be the compound addend in lieu of 8 and 5, or 28 the compound multiplier for 7 and 4. Composition is used here, as elsewhere, for the process of detecting the single alteration which produces the joint effect of two or more. The composition of the ratios of P to Q, R to S, T to U, is performed by assuming A, altering it in

the first ratio into B, altering B in the second ratio into C, and C in the third ratio into D. The joint effect turns A into D, and the ratio of A to D is the compounded ratio. The propositions added by Simson at the end of the fifth book will be good exercises in the comparison of the language of composition of ratio with that of multiplication.

Duplicate ratio ought to be defined as the ratio arising from the composition of two equal ratios; triplicate of three equal ratios, and so on. Euclid gives only the process, and neglects to give the idea, in which the force of the sixth book much consists. Any one who, after being used to the usual arithmetical way of stating the following, learns to appreciate the language of composition of ratios, will find a vast accession of clearness. "If the sides of a triangle AB, BC, CA, be cut by a straight line in C′, A′, B′, the ratio compounded of the ratios of AC′ to C′B, BA′ to A′C, and CB′ to B′A is a ratio of equality." And the treatment of this proposition after the manner of VI. 2, will add as much light to the proof.

Book VI. VI. 1. Much instruction is necessary to enable learners to take the proposition properly: as the first instance in which proportion is applied, it should be illustrated on every notion. Rectangles alone had better be used, and the other cases deduced: and the composition of the sides of the rectangles should follow.

The rationale of this proposition is best understood, after comparison with the last of the book, by the following enunciation—'If there be two species of magnitudes, *named* A and B, and if every A be accompanied by one B and one only, and if every B be accompanied by one A and one only; and if, according as one A is greater than, equal to, or less than another, the B of the first is greater than, equal to, or less than that of the second; and if, when one A is a multiple of another, the B of the first is the same multiple of the second—then any two As have always the same ratio to one another as their corresponding Bs.' VI. 2. Prove it also by formation of the relative scales, one being formed from the other by parallels. VI. 3 and A. Put the two propositions together, as in the pairs of the second book: introduce the notion of harmonic division. A development ought to be made of the sixth book, involving the fundamental modern use of harmonic division, anharmonic ratio, &c., the forms not being algebraic. VI. 4. Define similar (in form) figures: dwell on the possibility of creating a complete definition by ratios only, or by angles only, if *diagonals as well as sides* be introduced. Point out how Euclid, by throwing diagonals out of consideration, takes his definition from a mixture of the two homogeneous ones. Abandon the peculiar mode of construction by which Euclid proves two cases at once: make an

angle coincide with its equal, and suppose this process repeated three times, one for each angle. VI. 5. Attend to the remark on I. 48. VI. 7. This is the extension of the proposition supplied after I. 26. VI. 8 is out of place; it should follow VI. 12. Observe (and prove presently) that the property in I. 47 is a consequence of the right-angled triangle being capable of division into two of the same form: that if any other triangle could (but it cannot, which prove) be divided in the same way, the property of I. 47 would result. VI. 9, 10, 11, 12. Note that the first is a particular case of the second, and the third of the fourth: remark the manner in which Euclid never notes either analogy, or genus and species, when any difference of nomenclature interposes the smallest necessity for adaptation or extension of language. Note the command obtained, so far as straight lines are concerned (and ultimately rectilinear areas) over operations which supply the place of multiplication, division, and their combination, the rule of three. VI. 13. Connect this, after the manner just mentioned, with the extraction of the square root. VI. 14. Owing to the disjointed manner in which Euclid treats compound ratio, this proposition is strangely out of place. It is a particular case of VI. 23, being that in which the ratio of the sides, compounded, gives a ratio of equality. The proper definition of four magnitudes being reciprocally proportional, is that the ratio compounded of their ratios is that of equality. To this proposition should be added the other converse 'equal parallelograms, having sides reciprocally proportional, have their angles equal, each to each.' VI. 15. The immediate consequence of the last. The converse wanting is 'equal triangles, with the sides about a pair of angles proportional, have those angles equal or supplemental.' System requires that *all* propositions relative to the area of a triangle should follow from that of its parallelogram. Any independence is not real, since the first establishment of the area of the triangle must depend on the parallelogram. VI. 16. A mere case of VI. 14, illustrating the remark made on VI. 9, &c. VI. 17. A mere case of VI. 16. VI. 18. A theorem spoiled; its converse is in VI. 20. Put VI. 18 and part of VI. 20 into one in this manner:—'Pairs of similar triangles, similarly put together, give similar figures; and every pair of similar figures is composed of pairs of similar triangles, similarly put together.' Then make the *problem* of VI. 18 an application of the first part. VI. 19. Join to this the remaining part of VI. 20. Prove it from the proper definition of duplicate ratio, namely, the ratio compounded of two equal ratios: this is done instantly if VI. 23 be in its proper place, which will give the proposition at once for the case of similar parallelograms. The method of Euclid is an elegant application of the *operation* requisite

to compound equal ratios, by which the conception of the process is lost sight of. VI. 21. Has Euclid assumed in many places that two figures which agree in any particulars with a third, agree in those particulars with one another? If so, this proposition is needless. To show that he has done so, remark that *all reasoning* assumes that any two things (figures or not) agree with one another in every particular in which they agree with a third. Nevertheless, this proposition, and V. 11, are of a class which might be retained, not as proving their *results*, but as proving that the *terms employed in them* are so far not self-contradictory. VI. 22. In this proposition there is a most palpable failure: it is assumed that similar and equal figures must have their homologous sides equal, each to each. In most of the manuscripts of Euclid, and in many of those of highest authority, a *lemma* follows this proposition, which supplies the defect. That Euclid would ever appeal to *what follows* is wholly incredible: this lemma, then, is not his; but the defect is. Dr. Simson omits the lemma without a word; and preserves the defect. The best way of remedying it is to insert the following proposition, which immediately proves the second (or defective) case of the theorem. 'It is impossible that two *different* ratios can have the same duplicate ratio.' For, if possible, let the ratio of A to B be duplicate both of A to X and A to Y: from which A is to X as X to B, and A is to Y as Y to B. Let X be greater than Y: then A has to X a less ratio than A to Y: that is, X has to B a less ratio than Y to B; or X is less than Y. But X is also greater than Y, which is absurd, &c. VI. 23. See what has been said throughout on compound ratio. VI. 24 and 26. Put these consecutively: how could VI. 25 have got between them? VI. 25. Let the student see this in the following way:—'To make a figure which shall have the form of one given figure, and the size of another,' as well as in Euclid's language. It will be instructive to compare the arithmetical process with the geometrical. VI. 27, 28, 29. The use of these propositions to a learner, is historical: they show how Euclid, in the tenth book, proceeded in cases of which the arithmetical counterparts would require the solution of quadratic equations. VI. 30. A process derived from II. 11; little more than the latter under a new name. VI. 31. Take notice that I. 47 has never been employed in the real preliminaries of this demonstration; so that I. 47 is really demonstrated again. VI. 32 is useless; but the following would often be useful:—'If two similar triangles be placed with their bases parallel, and the equal angles at the bases towards the same parts, the other sides are parallel, each to each: or one pair of sides are in the same straight line, and the other pair are parallel.' VI. 33. Here the angle breaks prison.

Euclid's definition of proportion requires the consideration of every *multiple* of the magnitudes in question; accordingly, not only are angles greater than *two* right angles employed, but greater than *two million*. Dr. Simson makes no note in reference to this subject. VI. B, C, D. These introductions of Simson's are sometimes omitted, very injudiciously we think.

If the preceding suggestions were all adopted to the fullest extent, no material alteration would be made in the fabric of the elements. The greatest apparent alteration here proposed, the extension of the angle, is, as just seen, ultimately made by Euclid himself. The doctrine of compound ratio, which, as far as the first six books are concerned, is only a new phrase occurring in one proposition (if we dismiss the definition at the beginning of the sixth book as spurious), has a process which is really employed on several occasions. The small defects which we have noted in several of the demonstrations are such as can be amended by introductions which strictly accord in character with the rest. The mode of making, not the fifth book more arithmetical, but the existence of the arithmetic of the fifth book more discernible, by the application of modern phraseology and symbols, preserves Euclid's definitions and modes of proceeding. Logic, and language critically considered with reference to its connexion with thought, were subjects which had no formal existence when Euclid began to write: the necessity of extending terms, and the desirableness of not confusing logical equivalences and distinct propositions will, we suppose, be conceded. If the study of Euclid have been almost abandoned on the Continent, and have declined in England, it is because his more ardent admirers have insisted on regarding the accidents of his position as laws of the science.

There never has been, and till we see it we never shall believe there can be, a system of geometry worthy of the name, which has any material departures (we do not speak of *corrections*, or *extensions*, or *developments*) from the plan laid down by Euclid. If there be one worthy of consideration, it is the commencing with a strict theory of proportion. But it may very well be doubted whether any complete treatment of the fifth book could be made intelligible to students *of our day* before they have had some familiarity with demonstration as applied to particular species of magnitude. We say of our day, because it is impossible to foresee what the advance of education may do. It is perfectly conceivable that the rapid advance of demonstrative arithmetic, as a study preliminary to that of geometry, may ultimately render the change desirable.

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University College, London,
Oct. 30, 1848.

II.—ORDNANCE SURVEYS; METROPOLITAN SANITARY SURVEY.

THE operations which are now going on in the metropolis, in respect to the survey for sanitary purposes, and the curiosity excited as to the purport of the surveying stations and signals erected in various parts of London, afford a favourable opportunity for presenting a familiar view of the nature and objects of such operations—not only in towns, but over the whole kingdom.

Mode of conducting a Trigonometrical Survey.

The general objects of such a survey are, 1st, to determine the exact distances between all towns and all important buildings and localities over the surface of a country; 2nd, to determine the relative bearings or directions which they have in respect one to another, in order that they may be laid down on a map; and 3rd, to determine the relative altitudes, or the absolute altitudes in respect to the level of the sea, of all such spots. These objects are effected by a two-fold process—a system of open-air observations, and a system of mathematical calculations. It is a principle in trigonometry, that if we can measure by observation one side and two angles of a triangle, we can measure by calculation the other two sides; and furthermore, that from a triangle so measured, we can measure another triangle adjacent to it. Now this represents the whole spirit of the great surveys which have been carried on. A few lofty points, such as the summits of mountains, are selected, many miles apart, but yet each one visible from two of the others. By combined observations and calculations the length of the three sides of any of these triangles is determined with the most rigid accuracy; and then each side furnishes assistance in measuring a triangle adjacent to it. In this way the "primary triangulation" is conducted—equivalent to taking a very rough bird's eye view of the surface of a country. Then comes the "secondary triangulation;" each large triangle is broken up into a number of smaller ones, having conspicuous objects, such as church towers, &c., at the angles; and the sides of these triangles are accurately measured. Next comes the "detailed survey;" each secondary triangle is broken up into yet smaller ones, and these are treated according to the usual detailed survey of a land surveyor. Lastly, drawn plans or charts or maps are prepared, on which all the details are accurately laid down, on a scale of a given number of inches to a mile, to be determined according

to the minuteness of the survey; and these maps are either engraved or not, according to the object in view.

Of all the hundreds of lines which thus form these triangles, and whose lengths are accurately determined, only one is measured by direct means along the surface of the ground: all the others being determined by computation. Instead of being, as most persons would suppose, an easy task to measure a line along the ground, it is one of most inconceivable difficulty, and has called forth all the ingenuity both of observers and of instrument makers. The gradual curvature of the earth, the irregularities of the surface of the ground, the accurate length of the measuring instrument, the adjustment of the successive positions which it must occupy, and the minute variations of its length which result from expansion and contraction by heat and cold—all throw difficulties in the way of attaining rigid accuracy in the determination of the length of a line; and yet this accuracy *must* be attained, in respect to the "base-line" of a survey; for any error in this base-line will affect the whole of the triangulation. A correct base-line being obtained, well-conducted observations of angles, followed by various calculations, will effect all the rest.

The base-line for a large survey is not less than five or six miles in length, and is made on a tolerably flat spot of ground. The line may be in any direction, but is most convenient when due north and south. A row of pickets is laid out, as a guide, and permanent marks on metal are let firmly into the ground at the two termini of the line. Then comes the process of measuring the distance between these termini. When General Roy measured a base-line on Hounslow Heath, in the last century, he first employed well-seasoned deal rods as measuring instruments; but he found that they still contracted and expanded to a minute degree with variations in the atmosphere. He therefore substituted for them glass tubes twenty feet in length by an inch in diameter, and laid end to end. These answered better than the wooden rods; but they were afterwards superseded by two exquisite steel chains, made by Ramsden, which were a hundred feet long each, and which were stretched by a weight of fifty-six pounds when being used. To show the minute accuracy attainable in these operations, it may suffice to say that the base-line on Hounslow Heath, when measured by the steel chains, differed only three inches from the measurement by deal rods, although the length was five miles. In the measurement of a base-line in South America, Bouguer employed an iron rod; at Dunkirk, Borda employed bars of platinum; in Italy, Plana and Carlini employed hollow square tubes of wood; in Hanover, Gauss

employed rods of hammered iron. But the most perfect apparatus yet devised is that made by Troughton and Simms for the Irish survey under Colonel Colby; it consists of two bars, brass and iron, jointed together, and so adjusted that two minute points near the end of the instrument are always equidistant, whatever may be the contractions or expansions of the bars separately; each compound bar is ten feet long; and a base-line ten miles long has been measured with two such bars, with such accuracy that it is calculated the error, if any, cannot possibly exceed two inches in the ten miles.

A base-line being thus measured, the two ends are made to form two of the angles of a large triangle; and the three sides of this triangle are severally made the base-lines of three other triangles; and so on all around the original base-line. It is necessary to select lofty and conspicuous spots for the angles of these great triangles. Towers, spires, and flag-staffs on hills, are generally used; but it is now preferred to erect stone or wooden structures on purpose. Each station must be within view of the two others in the same triangle; and so long as this is the case, the farther they are asunder the better. Colonel Colby formed an immense triangle, of which one angle was at Ben Lomond in Dumbartonshire, another at Cairnsmuir in Kirkcudbright, and the third at Antrim in Ireland; all these were visible one from another, although the distance from Ben Lomond to Antrim in a straight line is ninety-five miles. In order to surmount difficulties arising from dimness in the atmosphere, various contrivances are adopted; such as the firing of Bengal lights, reverberating lights, white lights, the reflexion of the sun's light from a mirror, &c. Lieutenant Drummond employed what has been named from him the "Drummond light;" viz. the intensely bright light produced by the action of oxy-hydrogen on lime. Whatever be the signal, it must be one which can be seen through a telescope from one of the other angles of the same triangle; and the precise bearing or "azimuth" of the point where the light is seen, is determined by an accurate measuring instrument attached to the telescope. A mark is made permanently in the centre of a block of stone fixed immediately beneath the spot where the telescope had been placed, and this also marks the site for the signal to be made for observation from another station. Thus the primary triangulation goes on, by these observations, from station to station: the observers at each station waiting until they can obtain a favourable sight of the signals made at the other two stations of the same triangle, and measuring with extreme accuracy the angular position of the signal. Sometimes for days, and even weeks together, the observers are unable to see

the signal so anxiously sought for; and in the meanwhile their huts or tents may be exposed to the utmost inclemency of weather—wind, snow, hail, rain—perhaps on the summit of a mountain in a desolate region. The hardships and adventures undergone in some of the great trigonometrical surveys of the earth's surface belong almost to the romance of science.

When all the angles of the great triangles are determined, then ensues an indoor process. The calculator takes the place of the observer. He takes the base-line, and the angular bearings of a particular spot from the two ends of this base-line; and from these three elements he determines, by trigonometrical formulæ, the length of the other two sides of the triangle thus formed. The side from the third station to either end of the base-line then forms the base-line for another triangle, the third point of which is one of the stations still further distant; and so, by calculations step by step, the side of each triangle (equivalent to the distance between two stations) is determined with minute accuracy. Thus, when Colonel Colby selected the three stations at Ben Lomond, Kirkcudbright, and Antrim, he knew only one out of the three distances between them; but he was able, by the aid of signal lights and of exquisite instruments, to determine their relative angular positions, and other mathematical calculations enabled him to find the lengths of the sides of the triangles. These lengths were not given merely in round numbers—ninety-five miles, eighty-one miles, and sixty-seven miles—but were given even to the hundredth part of a foot.

The base-line and the triangulation are the main difficulties of a survey: all that follows is more a matter of detail, copying on an humble scale the vast operations which had preceded. The secondary triangulation divides the country into a large number of small triangles; and the detailed survey determines the position of all the principal spots in each of these triangles. In order to verify the accuracy of the whole proceedings, the base-line is occasionally measured, or rather calculated, by a round-about process derived from some very distant line; and it is expected that the length thus obtained shall correspond with that given by the original measurement of the base. The accuracy thus attained in some of the great surveys is sometimes perfectly marvellous.

Ordnance Survey of England and Wales.

Having described in a very brief and familiar way the chief features of a survey, we may next notice the existing surveys of our own country. Such surveys receive the several names of "Geodetical," "Trigonometrical," "Ordnance:" which may

be thus explained. "Geodetical," alluding to the earth, correctly marks the *object* in view, viz., the survey of the earth's surface; "Trigonometrical" alludes to the *means* by which the survey is carried on; and "Ordnance," in allusion to the Ordnance officers by whom the English survey is managed, indicates the *conductors* of the work. Any of the terms will suffice, but "Ordnance" is more particularly used in this country.

The scientific survey of each country owed its origin in part to investigations concerning the figure of the earth. When it became known that the earth is not exactly a sphere, a desire arose to determine the amount of deviation from this form, or the oblateness of the spheroid; and a trigonometrical survey of portions of the earth's surface was one of the means adopted to this end. Partial measurements, having other objects in view, were made by Fernel, Snell, Norwood, and Picard, before the time of Newton; but after the discovery of the oblateness, two expeditions were sent out by the Academy of Sciences of Paris—one to South America under La Condamine, Bouguer, and others; and the other to Lapland, under Maupertuis, Clairaut, and others—the object being to determine the length of a degree in different latitudes on the earth's surface by trigonometrical means. Maupertuis then measured an arc of the meridian near Amiens; and during the same century (the eighteenth) various minor measurements were made—among which were, one from Dunkirk to Perpignan, by Cassini de Thury and Lacaille; one at the Cape of Good Hope, by Lacaille; one in the Roman States, by Maire and Boscovich; one in North America, by Mason and Dixon; and one in Piedmont, by Beccaria. All these measurements had relation to scientific objects, and not to the military or territorial survey of any particular country; any such survey which had hitherto been made must have been very rude and inexact.

The trigonometrical survey of Great Britain arose out of an application from the French government, in 1783, to determine the relative positions of the observatories of Paris and Greenwich; which application originated in a memoir written by Cassini de Thury. The matter was placed under the care of Major-General Roy, who carried on the triangulation to connect the two observatories. General Roy measured the base-line (before alluded to) on Hounslow Heath. This base-line was five miles in length; a series of thirty-two triangles was made between it and the southern coast; and two more triangles were made across the Channel to connect the English triangulation with the French. In order to test the accuracy of the observations, a base-line of verification was made near Romney Marsh; and the length of this line differed only twenty

inches in six miles from that given by calculation from the Hounslow base. When the relative positions of the observatories at Greenwich and Paris had been determined by these means (in 1789), no further immediate steps were taken towards carrying on an English survey.

In 1791, after the death of General Roy, the subject was renewed, with a view to a military survey of Great Britain; and the triangulation was resumed under Colonel Williams and Captain Mudge. General Roy's base on Hounslow Heath was re-measured and was brought into connexion with the south of England by numerous triangles. When the stations were not more than fifteen miles apart, flag-staffs were used as signals; when at a greater distance, lamps and white lights. From 1791 to 1800 the triangulation of the south of England was carried on, combined with determinations of altitudes, and of latitude and meridional arcs. Two base-lines of verification were formed during the work; one of about seven miles on Salisbury Plain, and one of about five miles on King's Sedgmoor, in Somersetshire. From that time to 1809 the triangulation proceeded regularly northward.

The detail plans, founded on this survey, were commenced by officers of the Royal Engineers, partly for the purpose of practising them in military drawing, and partly for the purpose of forming military plans of some portions of Kent, for the use of the Ordnance. A corps of military surveyors and draughtsmen afterwards succeeded these engineer officers. Plans and drawings for a military map were thus gradually formed; and the publication, in 1805, of some parts of this map, on a scale of one inch to a mile, created a desire among the public to possess better maps than had formerly existed. Additional surveyors were hired to expedite the map; but it was still regarded solely as a military map: its execution was often suspended during the war; and at the termination of the war the demand for it considerably decreased. The gentry of some of the counties offered to subscribe for portions of the map, if it were carried on; and the Government and the House of Commons were at length induced to carry out the survey as a whole, with a view to the publication of an entire map of England and Wales, on a scale of an inch to a mile. When Colonel Colby was placed at the head of the survey in 1820, he caused all the old maps and plans to be carefully examined, corrected, and revised, and some of them wholly re-engraved. This has been a work of immense labour and expense: much greater than would have been the case if the survey had been taken up in the first instance for general instead of merely military purposes.

The Ordnance map of England thus grew up to a degree of

completeness not originally contemplated. Military plans for the Commander-in-Chief, coast charts for the Admiralty, county and parochial and baronial maps for legal purposes, and detailed surface-plans for railway and other engineering purposes—all are furnished by the Ordnance map. In order that these maps should be as trustworthy as possible, every thing has been done under the superintendence of Colonel Colby. The draughtsmen and engravers had an office in the Tower; but on its destruction by fire in 1841, they were removed to Southampton, where they still carry on their labours.

In 1840, when the whole of England and Wales had been surveyed, and when all but six counties had been engraved on the one-inch scale, a change in the system took place. The Ordnance survey of Ireland, as we shall presently notice, had been conducted on the magnificent scale of six inches to a mile; and such is the beauty and the importance of the maps so produced, that the Government received earnest solicitations from the six northern counties of England, and from Scotland, that the survey in the remaining portions of Great Britain should henceforth be conducted and engraved on the six-inch scale. This was acceded to; and preparations were made for the enlarged survey, which has been continued ever since, and which will necessarily occupy a great number of years. Whether the southern half of the island will be re-surveyed on this scale, remains for future years to show.

The present state of the Ordnance Map of England and Wales is as follows. The whole of Wales, and the whole of England as far northward as Hull, Selby, Leeds, and Preston, surveyed on the old or one-inch scale, have been published in maps on that scale. These maps are mostly forty inches in width by twenty-seven in height. They fit together at the edges without any overlapping or duplicate engraving, so that they form, not merely separate maps, but the several sheets of one map. As the scale is exactly one inch to a mile, the sheets are particularly convenient for reference in respect to distances, &c. England and Wales, as far northward as the towns above named, occupy ninety sheets, which if placed edge to edge in their relative positions, would form a map thirty feet wide by twenty-five high. The whole number for England on this scale would be 128. These maps have been gradually lowered in price until they are at length brought within the reach of all who may require such aid. The price is now only two shillings per sheet. Many of the sheets, by the aid of electrotype plates, are engraved and published in quarters, any one of which can be purchased for sixpence. The northern counties will require thirty-six times as many

sheets to represent a given extent of country as the counties already alluded to, on account of the largeness of the scale; and the preparation and publication of those sheets will on that account be a very protracted work. As portions of Yorkshire and Lancashire were engraved before the six-inch scale was resolved on, those two counties will be completed and engraved on both scales, so that a fair comparison may ultimately be made of the relative convenience of the two scales. It is also, we believe, determined, that the remaining four counties shall also be engraved on the one-inch scale, in order that there may be a complete map of England on one uniform scale. Of the map on the six-inch scale, there had been by the middle of 1845, about 4,000,000 acres surveyed, 2,000,000 acres drawn, and rather under 1,000,000 acres engraved; and the three operations have been carried on ever since.

The execution of this survey and map has necessarily been a very costly affair. From 1791 till 1811, the cost was charged against the vote for contingencies, and amounted to £44,410. After that period, there was an annual grant from Parliament, varying from £6,000 to £51,000, and amounting down to 1846 to £534,325. The expense for 1846-7 was £42,000, and for 1847-8, £43,000, making a sum total, from 1791 to 1848, of about £662,000. The sum received for maps sold to the public is not yet very considerable. It was estimated in 1845, that seven years would be required for the survey and engraving of the six northern counties on both scales; that 3000 square feet of copper plates would be required for the six counties on the six-inch scale, and 80 square feet on the one-inch scale; and that the probable cost would be about £316,000, added to the sum of about £530,000 before expended, making a total of about £850,000.

Ordnance Survey of Scotland.

The first idea of a Government survey of Scotland was in part owing to the rebellion of 1745. The nature and progress of that outbreak convinced the Government of the importance of establishing military posts, and opening roads of communication throughout the Highlands. A body of infantry was encamped in 1747 at Fort Augustus, near one end of what now constitutes the Caledonian Canal; and to this body was entrusted the formation of the military stations and the roads. Lieutenant-General Watson, who conducted the work, conceived the idea of forming a map of Scotland as a pendant to his labours; and as the suggestion met with the approval of the Duke of Cumberland, General Roy (whose name became afterwards so connected with the English survey) was em-

ployed to make the requisite arrangements. The survey commenced in the highlands, and gradually extended over the lowlands, so that the whole of the mainland of Scotland was surveyed by the year 1755. When the seven years' war broke out, the operations were suspended; and the map has never been engraved. The survey answered its intended purpose, but was not minute nor accurate enough to be put on a parallel footing with the English survey afterwards conducted. General Roy designated this Scottish survey as being "rather a magnificent military sketch than a very accurate map of a country."

When the English Ordnance Survey was determined on, Scotland was included in the general project; but many years elapsed without any thing being done there, as the operations were at first confined chiefly to the southern counties of England. The primary triangulation of the south-east part of Scotland was commenced in 1809, and was thence continued along the east coast as far as the Shetland islands, and along the western counties as far as Loch Lomond. This went on from 1809 to 1823; but when the Irish Ordnance Survey commenced, most of the survey officers were sent thither, and the survey of Scotland was suspended for many years. When the primary triangulation of Ireland was finished about 1838, the Scottish survey was resumed, and has been continued ever since.

The Scottish survey was intended for engraving on the same scale as the English, viz. one inch to a mile; but when the beautiful six-inch Irish maps appeared, a desire arose that those of Scotland should be equally good. The British Association, the Wernerian Society, the Royal Society of Edinburgh, and the Provost and Council of Edinburgh, all memorialized the Treasury about the year 1837; and in consequence of these and other representations, the Government determined in 1840, that the survey of Scotland should be laid down on a scale of six inches to a mile. Colonel Colby stated, in a Report to the Ordnance Board in 1843, that at the rate of expenditure then adopted, the survey of Scotland could not be completed in less than twenty years.

The outlay for conducting the Scottish survey has been mostly charged to the general vote for the survey of England. From 1819 to 1846, the separate charge was about £30,000 for primary triangulation. This sum appears very small; but the heaviest item in all such surveys is "office work," comprising the drawing on paper of all the results of the survey; very little of this had been done in Scotland down to 1846. By the spring of that year, the primary triangulation of Scotland was nearly completed; the secondary triangulation of the counties of Wigton and Kirkcudbright was completed, and

that of the county of Dumfries was in progress; the detail survey of Wigton was complete, and that of Kirkcudbright in progress; and the engraving of the county of Wigton, on the six-inch scale, had commenced. In the various departments of this survey, there was an expenditure of about £11,000 from April 1846 to April 1847; and about £15,000 from April 1847 to April 1848. The number of persons employed on the survey in the first of these two periods was 235; in the second 267; and proposed for the year ending April 1849, 253. These persons are classed under the headings of officers, sappers and miners, surveyors, engravers, and labourers. In the two years, from April 1846 to April 1848, there were 283,454 acres surveyed, and 211,656 acres drawn, of the counties of Wigton and Kirkcudbright, and the island of Lewis. Out of the thirty-seven maps which will delineate the county of Wigton on the six-inch scale, two have been published, and twenty-three are in progress of engraving, all of which will have *contour lines* (presently to be explained). The primary and secondary triangulations are proceeding in various parts of Scotland; the detailed survey is confined at present to the south-west corner.

Ordnance Survey of Ireland.

The Trigonometrical Survey of Ireland arose out of the appointment of a Committee of the House of Commons in 1825, "to consider of the best mode of apportioning equally the local burdens collected in Ireland, and to provide for a general survey and valuation of that part of the United Kingdom." The divisions of Ireland, in respect to land, are very complex, and much inequality used to exist in apportioning local rates and taxes. One of the most ancient subdivisions is the *townland;* and the Committee recommended that every townland in Ireland should be surveyed and valuated, as a basis for taxation and local rating. The boundaries of counties, and those of parishes, are sufficient for most purposes in England; but it is necessary in Ireland to attend to the boundaries of smaller portions of land, the townlands. The Committee recommended, that the scale for this townland survey should be six inches to a mile.

The recommendations of the Committee were for the most part put in force. There was to be a map of the whole kingdom, on a scale of one inch to a mile; a townland map for rural districts, at six inches to a mile; and a map of cities and large towns, at twelve inches to a mile. It was at first intended that only the one-inch scale map should be engraved and published, the others being left merely as drawings; but as it was found that the Commissioner of Valuation would

require five or six copies of the townland survey for his valuation of Ireland, it was considered advisable to engrave the six-inch scale map rather than trust to tracings; and this has been effected at very little additional expense. The one-inch scale map was postponed till the townland survey was completed and a Commission was appointed in 1846, to determine whether and in what way the map should be finished, which was recommended by the Committee twenty-two years before.

The conduct of this Irish survey has been one of vast difficulty and responsibility. Colonel Colby had, in 1825, to mark out a line of proceeding for the whole of those under him. He organized a corps of engineers, of sappers and miners, and of private surveyors; and as his plans often ran counter to the every-day course of proceeding in such matters, he had at first much opposition and difference of opinion to contend against; but by an immovable adherence to a system which he knew to be right, he conquered all difficulties.

The survey commenced in 1825, and terminated in 1842. It was from beginning to end quite a triumph of skill, such as has not been equalled in any similar work. Dr. Robinson, the Professor of Astronomy at Armagh, in evidence which he gave before a Committee of the House of Commons in 1843, spoke of the Irish survey in the following terms: "In respect of triangulation, it is unmatched in the world; there is nothing like it in existence; the details of that part of the work cannot in fact, as I conceive, in the present state of human knowledge, be excelled."

A peculiar feature was introduced into this survey: it was first employed in 1838, then suspended for a while, and then ordered by the Ordnance to be adopted, in respect to the six-inch scale, in all the three kingdoms; viz. the introduction of *contour lines*. When a mountainous country is represented on a good map, the hills and valleys are easily distinguishable by the lines of shading; it is the object of the system of contour lines, so to manage this shading as to indicate the *height* of the hills above the level of the neighbouring valleys. To effect this, the engraved lines are carried round the circumference of a hill, instead of radiating from the summit; and each line represents a particular altitude in feet above the level of the sea. The distance between every two lines of the shading represents a given number of feet in vertical height, say 50; so that in representing a very steep mountain, the contour lines are much closer together than in representing a more gently sloping mountain. The distance between any two contiguous lines of the shading represents a constant quantity throughout the map; and this constant quantity is a given number of feet in vertical height.

But these contour lines were not contemplated in the original plan of the Irish survey. The whole of the survey has been published in maps on a scale of six inches to a mile; but without any sort of engraving to indicate difference of level. This is a feature which will probably be introduced on new plates, formed by the electrotype process from the original plates. But though altitudes are not marked, the details of surface are given in the maps with a degree of minuteness quite remarkable. By means of engraved names, in characters varying according to the subjects, or by a peculiar combination of shading lines in the engravings, the details are so worked in as to constitute the map a picture of the industry, antiquities, and social arrangements, as well as the mere topography of the country. The names and the boundary lines of counties, baronies, parishes, and townlands; the names and detailed features of cities, market-towns, and villages; the localities of parish churches, glebes, ruins, antiquities, forts, parks, demesnes, mansions, and farms; of rivers, brooks, bogs, marshes, harbours, bays, creeks, canals, docks, weirs, locks, bridges, and wells; of mines, quarries, collieries, lime-kilns, forges, gravel pits, brick fields, bleach grounds, tanneries, and large factories—all are represented in the maps of this extraordinary survey.

It may well be supposed, that the engraving of a map of Ireland on such a scale, must occupy a large number of sheets. These sheets are of copper. In laying down maps in the usual way, the authentic originals are on paper; but as this paper is subject to expansion and contraction by variations of moisture, Colonel Colby caused the maps of the Irish survey to be drawn on the copper plates themselves. These are preserved as the originals; and any improvements or additions to the maps are to be made on electrotype copies of these plates. The engraving of the whole of Ireland was finished in 1846. It occupies the very large number of 1921 sheets, each measuring three feet by two. The whole fills an area of 11,000 square feet; and if the sheets were placed edge to edge in their proper places, they would form a monster map of Ireland, 140 feet high by 100 feet in width! If we take one single county, Cork (the largest in Ireland), we find that it occupies 153 of these large sheets; and that if built up into a continuous map, it would be fifty feet wide by thirty-four high! On the terms at which these maps were originally sold to the public, a copy of the complete map of Ireland would cost about £1000; but the price is now 5*s.* and 2*s.* 6*d.* per sheet, according to the amount of work in each. There are also index maps of the counties on a smaller scale, to facilitate reference to the larger maps; but these index maps form in themselves some of the

most beautiful county maps that have ever been executed. The six-inch townland sheets that happen to contain the great towns, such as Dublin and Cork, are wonderful specimens of elaborate engraving.

It is, we believe, not yet quite decided, whether there shall be a one-inch map of Ireland as well as that on the six-inch scale. When the survey was first contemplated, it was intended to have it on a six-inch scale, but engraved only on a one-inch scale; but the six-inch plans have been engraved instead; and there is a difference of opinion, whether one inch, one-third inch, or one quarter inch to a mile, would be the best scale for the reduced map; and also, whether it ought to be done by the Government, or to be left to the enterprise of private publishers. In the meantime, the requisite surveys for bringing in the contour lines are being made.

The Ordnance Survey of Ireland has been even more costly than that of Great Britain, on account of the large scale on which it has been conducted, and of the great force brought to bear on it. The sum expended from 1824 to 1846 was £863,206; in the year 1846-7, £11,000; and in 1847-8, £12,000, making in the whole about £886,000, or about 10*d.* per acre for the surveying, engraving, &c.

The Geological Survey.

The Geological Survey has to some extent been combined with the trigonometrical. In 1815 the Board of Ordnance commissioned Dr. Macculloch to make a geological examination of Scotland, partly as the commencement of a geological survey, and partly to aid in the determination of the density of the earth, by repeating Maskelyne's experiments at Schehallian. This survey was carried on from 1815 to 1821, and many of the results are scattered through Dr. Macculloch's scientific papers; but from various causes, the examination did not assume the importance or value of a regular survey.

The subject, though laid by for a time, was not forgotten. The importance of a geological survey in respect to mining, to collieries and quarries, to building materials, to agriculture, as well as to science strictly as such, is generally acknowledged; and nothing but scruples as to the expense retards the prosecution of such a survey. In 1825, a commencement was made of a geological survey of Ireland. Specimens of natural history and geology were collected all over Ireland, by persons employed in the general survey; and these specimens were sent to the Ordnance Survey Office at Dublin to be classified and arranged. From 1825 till 1840, specimens were collected in this way as an index or basis for future geological

memoirs. In England, however, the geological survey has assumed a more definite form. Sir H. T. de la Beche offered in 1832, to supply data for colouring geologically certain sheets of the ordnance map of England. An arrangement being made with this view, the counties of Cornwall, Devon, Somerset, Gloucester, Monmouth, Glamorgan, Caernarvon, Pembroke, Wilts, Dorset, Worcester, Brecon, Cardigan, and one or two other counties, were successively surveyed. The survey was conducted under the Board of Ordnance by Sir H. T. de la Beche. The outlay from 1832 to 1845 was about £13,000. In 1845 the Earl of Lincoln, as First Commissioner of Woods and Forests, recommended that the geological survey should be prosecuted with increased vigour; that £4000 a year for fourteen years (which it was estimated would suffice to finish the survey), should be appropriated to this purpose ; that the Museum of Economic Geology in Craig's Court, which had been established in 1835 in connexion with the geological survey, should be placed on a better footing ; that £20,000 should be applied to the building of a new museum in Piccadilly ; that the Irish geological survey should be resumed, a sum of £1500 a-year devoted to it for ten or twelve years, and a Museum of Economic Geology formed at Dublin ; that professors of agricultural and manufacturing chemistry, as well as of mining and geology, should be attached to both museums, for the furtherance of the objects of the survey ; that both surveys should be conducted by Sir H. de la Beche ; and that the control of the whole should lie with the Woods and Forests instead of the Board of Ordnance. Most of these recommendations were agreed to by the Treasury ; and an Act was passed in the same year, empowering the Board of Woods and Forests to make the requisite arrangements. The expense is to be defrayed by annual votes from Parliament.

The mode in which the geological survey is conducted is this. The director, on commencing in a particular district, first examines it in a general way, and then appoints assistant geologists, each of whom has a limited space marked out for him. They receive the existing Ordnance maps, proceed to the ground, and survey the boundaries of all the geological strata as accurately as if they were roads on the surface of the ground. Sections are then made on a scale of eleven feet to a mile, to show the occurrence of strata one above another, and the organic remains which each may contain. Sections are then made in many different directions, on a scale of six inches to a mile, to show the general geological structure of the country. Such portions as it may be determined to publish in the form of

maps, on a scale of six inches to a mile, are next prepared. All the surface lines (marking boundaries of strata) having been laid down on paper, they are transferred to a copper plate and engraved; the prints taken from this plate are lastly coloured, to show every variation of geological structure. Memoirs and maps of the counties of Devon and Cornwall, prepared with especial reference to the delineation of geological strata, have been published, and others are in course of preparation.

Survey of London and the Large Towns.

Any survey of a closely built town must necessarily, to be useful, be on a much larger scale than that of the open country; such is the case in the various plans of cities and towns published; and such will be the case in respect to the plans now being made by order of Government. Military and hydrographical surveys have often been made in our ports and harbours; but surveys for civil purposes have hitherto been left principally in private hands. The requirements of rating, of improvements, and of the establishment of a scientific system of drainage, have, however, led to various new arrangements in these matters.

The ordnance survey of cities and towns, on a scale of five feet to a mile, will form a most valuable and important series when completed. From a return made by the Ordnance Office to the House of Commons, in May 1848, it appears that up to that time there were ninety-four Irish towns, fifty-two English towns, and four Scotch towns, surveyed on this scale.

With regard to the Irish towns, in respect to which the greatest amount of progress has been made, none of the surveys have been engraved, except that of Dublin, which occupies thirty-three sheets, and the engraving of which has cost £2500. The chief object in view in Ireland, has been to regulate the valuation of the grand jury cess in thickly peopled districts, and has had no especial reference to sanitary improvements; but the maps would be available for such a purpose with very little modification.

In respect to the fifty-six English and Scotch towns, eighty-nine plates, belonging to twelve English towns, were in the hands of the engravers at the date of the report. The number of sheets, each measuring thirty-six inches by twenty-four, that will be required for the fifty-six towns, is 599, giving an average of about eleven for each town. The largest numbers are, Liverpool fifty and Manchester forty-five; the smallest are, Kirkcudbright and Wigton, one each. The survey of towns, on this large scale, was commenced at the same time

(1840) as the six-inch general survey of Scotland, and of the six northern counties of England. Southampton and Windsor are the only two towns included in the above list, in which the survey was made expressly for local improvements. At Southampton, "contour lines," at five feet vertical distances, were surveyed; they were marked by copper bolts inserted at proper heights in different parts of the town, and were drawn on the plans. At Windsor, the contour lines were partly at four feet and partly at two feet vertical distances. The Southampton survey was made for the Improvement Commissioners, and the Windsor survey for the Commissioners of Woods and Forests; neither survey has been yet engraved

A return was printed by order of the House of Commons in the early part of 1848, showing the progress made in the survey of parishes within eight miles of St. Paul's (excluding the city of London), in conformity with the Act 6 and 7 Will. 4, c. 96. This Act had for its object the more equitable apportionment of poor-rates among the different parishes; and to carry out its provisions, the Poor Law Commissioners were empowered to order new surveys and valuations to be made. The parishes which up to March, 1848, had been surveyed, mapped, and valued, were Leyton, Greenwich, St. Paul's Deptford, Chiswick, St. Clement Danes, Hammersmith, Battersea, Clapham, Croydon, Lambeth, St. Mary Rotherhithe, Tooting Graveney, and Wandsworth; those which had been surveyed and valued, but not mapped, were West Ham, Walthamstow, Woodford, St. Nicholas Deptford, Hackney, and St. Martin's-in-the-Fields. The expense of the survey and maps was £8,700, or about an average of £460 for each county; varying from £95 (Woodford) to £2,400 (Lambeth). The scale of the plan is in most instances one inch to three chains, or twenty-six and two-thirds inches to a mile; but in a few instances (especially St. Clement Danes) it is larger.

The survey of the metropolis which is now being conducted, arose out of the awakened interest which sanitary improvements now engage. In the "Companion" for 1848, a paper on the "Health of Towns" will show the many phases which such improvements may assume; and various pages of the present volume will be found to bear reference to many points illustrative of the same subject. Any good system of drainage for a large city must be dependent on the levels and slopes of the ground; and an accurate knowledge of these levels and slopes must be dependent on a skilfully conducted detailed survey. Hence arose the question—is there in existence a good and minute survey of London and its environs? Or

rather, it became a question of degree—is there a *sufficiently* detailed survey? After much controversy, it was decided, in the early part of 1848, that a Government survey of London, for sanitary and other purposes, would be highly useful, and should be forthwith commenced.

In respect to the actual extent and condition of the main sewers within the city of London, a Return presented to the House of Commons in February, 1848, shows that, in twenty years (1828 to 1847) the sewer's rate received varied from £6,000 to £16,000 annually; that the expenditure on new sewers in one year (1843) reached £25,000, and in one or two years was as low as £5,000; that the length of the public streets and ways in the City is about fifty miles, of which forty-seven have sewerage; that the sewers vary from four to seven and a half feet in height, and from two and a half to five and a half in width—Fleet Ditch being excepted, which forms a sewer twelve and a quarter feet high by eleven and a half wide. It is in reference to these sewers that a part of the discussion respecting the new survey was founded; but the survey itself has a much wider scope than any thing referring merely to the City itself.

When the Metropolitan Commissioners of Sewers commenced their labours in 1847, they felt the want of a general survey for any comprehensive plan. Each smaller commission had been wont to work out its own plans, without sufficient regard to those of neighbouring districts; and it was hence found that large sums had been injudiciously expended on the London sewers. To determine the relative levels of all parts of London is an indispensable preliminary to any well-arranged system of drainage; and the Commissioners saw the necessity for providing a survey of these levels. As the Ordnance surveyors had had much experience in this kind of work, and were provided with all the proper scientific means, the Treasury made a temporary arrangement as to funds, whereby the Commissioners were enabled to avail themselves of the services of the Ordnance surveyors. As it will take some years to perfect the entire survey, the Commissioners commenced (in the detailed survey) the more dense and badly-drained neighbourhoods.

In this survey, as in all others of the kind, the great triangulation is the first point to attend to. That wonderful specimen of skill—the scaffolding on and around the cross of St. Paul's—which was put up in the spring of 1848, was the main station for observations. The summits of Primrose and other hills, the towers and roofs of churches, the parapets or terraces of public buildings or houses—all have been made available as the sites for signal staffs, visible from each other and from St

Paul's. By observations of such a kind as those before described, the relative angular positions of these points can be obtained. Then, the main points being known, a detailed survey can be made; every street and alley, every building and block of houses, every square and open place, is measured in length and breadth; and, what is of almost equal importance in respect to sanitary matters, the slope or ascent of every street is ascertained. The result will be, that when the survey is completed, not only will the exact direction and the exact distance of any spot from any other spot be known, but also the exact height in feet and inches of every spot above a certain assumed datum or base-line. The survey will extend to a distance of eight miles in every direction from St. Paul's, or will comprise a circle sixteen miles in diameter, covering an area of about 201 square miles. The district which it is proposed to finish first is that which is bounded by the Thames on one side, and on the other by an irregular line extending from Westminster-bridge by way of Great George-street, Birdcage-walk, Constitution-hill, Knightsbridge, and Brompton to Fulham-bridge. This district is chosen, partly because it includes the dense portions of Westminster, which are very much in want of improved sewerage; and partly because it includes or touches the market gardens of Fulham and its vicinity, where a favourable opportunity will be afforded for applying sewage refuse to the purposes of agriculture.

With respect to the mode of defraying the expenses of this survey, the Government took the responsibility in the first instance, in order that no time might be lost; but an arrangement was afterwards made, on the basis of a rate on the householders. As the whole metropolis will unquestionably be benefited by the results of the survey, it is not inequitable that the householders should pay for it; and as the expense will be spread over a large area, it will amount to a very trifling sum on each person who has to contribute towards it. It was estimated in May last, that the survey would cost about £25,000; that this might be repaid by a rate extending over thirty years; that there are 300,000 houses which would contribute to the rate; and that the year's payment per house would be less than twopence on an average. Both the actual cost, and the precise mode of providing for it, are points open to future calculation; but it is evident that the matter might be so managed as to fall very lightly on individuals. With regard to the City of London, the Government has not yet acquired any control over the management of the sewers. The City Commission exists independently of the Metropolitan Commission; and the two have the power of running counter

to each other's plans, if discord happen to arise between them. But the advantage of co-operation is so manifest, that in August 1848, the Metropolitan Commissioners succeeded in obtaining the consent of the other body to the inclusion of the City within the new survey. This is an important matter. The Ordnance surveyors will now include the whole of the metropolis, to its most extreme limits, within the scope of their labours; and the City Commissioners will pay for that portion of the survey which relates to the City.

To make the survey, and to draw it out distinctly on paper, would suffice for the use of those who will have to form comprehensive plans for the drainage of the whole circle of land; but for the numerous public uses to which such a survey might be made contributory, the plans would be wanting in availability, unless they were engraved for printing. Hence estimates have been made of the probable addition to the outlay, necessary for the introduction of the engraving process. If engraved on a scale of five feet to a mile (which is the scale of the Ordnance plans of British and Irish towns now being surveyed and engraved), it would require 900 sheets, each measuring three feet by two; the copper plates are estimated to cost about £3600, and the engraving about £9000, thereby adding about £12,600 to the cost of the survey. There can hardly be a doubt that this money would be well laid out; for a map on this magnificent scale would be applicable to many useful purposes, both public and private; and if the maps were sold at a cheap price singly, they would be auxiliary to many commercial and scientific purposes, besides the sanitary object which is at present held mainly in view. Sir H. T. de la Beche, who now takes the geological department in various government inquiries, will introduce into these maps many valuable points of information respecting streams, wells, springs, strata, &c. If we conceive all these arrangements to be fully carried out, and there to result from them a vast block-plan of London and its environs eighty feet in diameter, we shall then have something worthy of our great metropolis, and of the scientific officers by whom it will have been conducted.

By thus combining in one article a sketch of the past and present proceedings in respect to the Ordnance Surveys of England, Wales, Scotland, and Ireland, and of the principal cities and towns, we place before the reader a body of information which (we believe) has not yet been given in a collected and connected form—it has lain scattered through scores of parliamentary and other documents. The skilful survey of British India by Colonel Everest, and the recent surveys of continental countries, lie beyond the scope of the present paper.

III.—THE CHOLERA.

THE awful scourge is again upon us. Let us meet it with calm fortitude, so that fear may not kill where the disease itself would have failed to do so. Nations, like individuals, in great crises, must preserve their presence of mind, if they would understand the exact scope of the dangers that threaten, and be able to choose, with a fair probability of success, the best remedial measures among the many that are offered at all such times for acceptance. Happily, it is now much easier to preserve something like equanimity than during the former visit of cholera. Since that time much information has been obtained on the subject; and among that information one great fact stands prominently, cheeringly forward. Cholera is *not* contagious. It is impossible to overrate the importance of this discovery. We will rapidly enumerate the data on which it is based. Quarantine regulations cannot shut out the disease; whilst, at the same time, it is found that the freest communication between infected and healthy districts has failed in various places to affect the latter. Thus, while in the north of Europe three lines of troops have failed to arrest its progress, in other places it has passed harmlessly over large tracts and populations, to fall on some point beyond with its usual effects. At St. Petersburgh, one of the islands of the Neva remained free, while all around it were suffering. The most decisive testimony, however, has been given at Lyon, to which full ten thousand persons emigrated from Marseilles when the cholera was raging there, and yet Lyon remained unassailed. Then again cholera has been observed to break out in so many places, and to spread over so large a tract of country, at the same instant, as to preclude all notion of the agency being that of simple contact between individuals. When the disease broke out, for instance, in Cairo, in 1831, *two* cordons sanitaires were instantly established between Cairo and Alexandria. Their uselessness was soon made apparent. Two or three of the soldiers at Alexandria were attacked on the 21st of August, and forty-five more cases occurred the next day. One of these, which ended fatally, occurred in the pasha's palace. The pasha immediately went on board a frigate, some of the court followed him, the rest shut themselves closely up in their houses; yet within five days the whole of Lower Egypt lay waste, as it were beneath the awful ravages of the disease.

The immunity from the disease, enjoyed by the very physicians who were constantly ministering to the patients attacked, furnishes another weighty proof of the non-contagious character of cholera. Not a single death had occurred among the physicians of Moscow up to the latest arrival of intelligence from that city, as given in the Second Report of the Metropolitan Sanitary Commission. And although some hospital attendants had been less fortunate, the late watching, and extreme physical exertion to which they had been subjected, were enough to account for their fate. And, as in the intense colds of Russia, so was it in the equally intense

heats of the East Indies. During the attacks of 1843 and 1845, among the Europeans, there was, says Dr. Parkes, "a large extra allowance of hospital servants and coolies. These men were constantly in the cholera ward, aiding the sick men in and out of bed, putting them into baths, rubbing their cramped limbs, emptying the close stools, and performing all the offices demanded by the patients, usually so restless and fretful in the earlier period; and yet not one of these, nor any other of the hospital servants, were attacked. The medical officers were constantly on duty, and yet enjoyed the same immunity." In fact, it seems to be one of the peculiar characteristics of cholera, as compared with the bubo plague, or the malignant typhus, for instance, that it so completely prostrates the animal system, that there is no power left in it to spread the seed of new death, while itself dying. The exhalations from patients attacked by the foregoing disorders, are so powerful and so mischievous as to produce instantaneous sickness in a healthy person after only a few minutes of respiration; but no such poisonous excretions are discoverable in cholera. The very discharges from the body, with which life itself ebbs so rapidly away and is gone, are almost destitute of either odour or colour.

The non-contagious character of cholera is now then considered sufficiently established; and how many blessings follow in the train of that one great blessing? We no longer need to fear we are endangering ourselves by using all our power to aid others. Hand in hand we may confront the terrible shadow. No longer is it found necessary in ordinary cases to take the patient from his home, at a time when home is to him the dearest thing on earth. "I saw," says Mr. Bowie, "one striking example of the advantage of non-removal. A captain of a large vessel lying near the West India Docks called upon me one morning. He stated that two or three of his seamen had been attacked with cholera, and sent to the cholera hospital ship at Limehouse, where they had died. That another of his men, to the best of my recollection his mate, had been seized with the disease, and that all the crew had threatened to leave the ship if he died too. Under these circumstances he said he had been recommended to apply to me to advise him what to do. I at once told him I did not at all approve of cholera patients being subject to the fatigue of removal. He then asked me if I would take charge of the sick man, which I agreed to do. Taking a man with me, upon whom I could place dependence, I went on board. The case was a severe one, quite as much so, it was said, as any of the others who had been removed. My patient recovered; the alarm ceased; all the seamen who had left the ship returned on board, and not another case of cholera occurred in that vessel. So great was the panic at the time, that the attendant I left on board told me there had been no one but himself and the patient in the ship for several hours."

Or if the patient be removed for the sake of more skilful aid, and of superior appliances, he will no longer be isolated and shunned like an accursed thing, or like the lepers of old, by immuring him within the walls of a cholera hospital. In Russia the ordinary hos-

pitals and infirmaries have been thrown open to cholera patients; buildings "unequalled in the rest of Europe for architectural magnificence, inward elegance, the most studied cleanliness, and an undoubted generosity of furniture and arrangement." And, as might have been anticipated, the results of the new modes of treatment in Russia, modes based on the belief of the non-contagious character of cholera, have been most gratifying. The disease was received, as we hope our own countrymen will now receive it, with tranquillity, and dealt with the more effectively because of that reception. Nothing appears more certain than that the action of the passions, and especially of fear, has an extraordinary influence in the development of the disease, and in stimulating it onwards to a fatal end. Here is one anecdote of many that might be found in proof. "I attended," says Mr. Bowie, "a captain, the master of a Bridport trader, lying near the hermitage. Whilst attending to one of his boys, whose case was of great severity, he used to look down from the deck into the cabin, and declare he would not go into it if all London were to be given him for doing so. All his crew assisted in waiting upon the boy without suffering from the disease, while the captain, who had never gone near him, was attacked on shore."

In endeavouring to systematize the information that has been collected from all available quarters by the Sanitary Commission, and published in their two Reports (1847 and 1848), one broad natural division presents itself; viz.—1. The Cholera: its characteristics, conditions of progress, and remedies; and 2, the Causes of Cholera, and *their* remedies; and as in the case with most, if not all, the evils to which humanity is subject, the last is at once the widest and most important of the two departments. We will therefore first dismiss the other.

1. *The Cholera.*

The actual disease may be thus popularly described. It commences with simple diarrhœa or looseness of the bowels, which is as often without as with pain. If unnoticed or unchecked at the very outset the evacuations rapidly increase in number, still, however, retaining their natural odour and colour. In this state matters may continue only a few hours, or two, three, or more days. *That is the period of warning.* Unhappily few attend to it. "It is only an ordinary illness," we say; "it will soon wear off; it would be absurd to trouble oneself about such trifles;" and so we dally with the time until it has irrevocably passed, and the disease enters upon the second stage. Now the processes of secretion and excretion are almost entirely arrested, and the disorganization of the blood under the operation of the poison rapidly interferes with the vital business of circulation. An observer, Mr. Moss, of Windsor, has described the symptoms of this second stage in words of terrible precision. It is characterized by "vertigo, a great prostration of strength, severe cramps in the legs or abdominal muscles, with loud and violent vomiting of large quantities of a thin gruel-

like fluid, devoid of smell; at the same time forcible and most profuse ejections from the bowels of a precisely similar fluid, in such astonishing quantities, as to show that all the watery portions of the blood are drained off; the body becomes colder than an ordinary corpse, and often as pulseless, and the countenance far more cadaverous and ghastly than that of death under any other disease. The eyes are deeply sunk in their sockets, which are perfectly hollow, from the abstraction of their natural fluids; the voice is a tremulous croak, or sunk to a deep sepulchral whisper; the breath strikes your cheek like air from an ice-house, and the tongue feels like the touch of a frog. Different parts of the body assume a leaden hue, owing to the thick and stagnant blood of the cutaneous vessels shining through the attenuated skin, which is as cold and clammy as in the approach of death from low fever. When a vein is opened in the arm the blood will rarely flow, and on being squeezed out has the appearance and consistence of treacle; add to this that the thirst is insatiate, and restlessness extreme, and you will have a faithful portrait of a disease which none can fail to recognise or mistake for any other."

Is it not a matter of fervent congratulation to know that all these horrors may be averted, in an immense majority of cases, by implicit obedience to the first warning given—the diarrhœa or looseness. It is in that stage alone we can act with almost certainty of success; it is in that stage the cholera is constantly neglected by those it attacks. Let us look at one example of what could be done, even at second-hand, that is by the action of medical skill, which must always come later into the field of remedial exertion than is necessary, if those who are attacked were themselves sufficiently alive to their danger at its first approach. At the time that Birmingham enjoyed an almost entire immunity from the cholera, the little town of Bilston, only ten miles distant, was more terribly afflicted than any other part of Great Britain. Out of 14,700 inhabitants, 3,568 were attacked, and 742 died in less than seven weeks. Government now interfered specially, by sending down Dr. M'Cann, who had practised in India and Persia, and seen much of the operations of the disease in those countries. His first step was to form a dispensary; his second to issue a public notice, requesting every one whose bowels were in the slightest degree disordered to come to this dispensary. The people accordingly came in great numbers. He gave them an astringent aromatic opiate medicine, and whilst he directed some to come again, where he thought the cases looked doubtful, to others he gave additional medicine to take home with them. How simple—puerile almost—all this sounds in the presence of such a formidable disease. *It stopped that disease*, nevertheless. The following figures relate, in language not to be mistaken, the effects of Dr. M'Cann's presence in Bilston. The cholera was in that place twenty-three days before the opening of the dispensary, and remained twenty-seven days after; therefore there is no possibility of questioning whether the disease had or had not run its course before the operation of the new measures. Well, let us

contrast the state of things in the first period of twenty-three, and in the second period of twenty-seven days. In the twenty-three days 503 persons died; in the twenty-seven 239 died; but as of this number of 239, no less than 134 died in the first five days after opening the dispensary, it is clear that we should look upon these cases as rather belonging to the first period than the second. Of course some days would elapse before Dr. M'Cann could place himself in communication with the great body of the people; and possibly, he did not even then succeed in inducing all persons to attend to his warning, and seek his aid. Again,

In the five days preceding the opening of the dispensary, there died . . . . . 227 persons.
In the five days following . . . . . 134 ,,
In the second five days . . . . . 59 ,,

and on the eighteenth day not one single fatal case was reported; and the end was that Bilston was relieved sooner from the cholera than the neighbouring places which had been simultaneously attacked; and when gone it never returned. The people of Bilston had grown wise by experience, and doubtless resorted to the simple but most potent remedy that Dr. M'Cann's skill and courage had pointed out to them. To this gentleman, since deceased, we are therefore indebted, not for the knowledge that diarrhœa is the preliminary stage of cholera, but for the all-important fact that you can positively arrest the disease by acting upon it in that stage.

The chief details of Dr. M'Cann's treatment have been furnished by his relative Mr. M'Cann, a surgeon of London, who states that, in acting upon them, he has met with the most decisive success; as, for instance, in the police division which was under his care. The following are the main features:—

Non-removal of the patient, except where he had no proper home.

A small dose of calomel, with rather a large one of opium, given at once, where the looseness was slight.

Where the looseness was or became more serious, chalk mixture combined with aromatic confection, ammonia, and tincture of bark, was to be administered.

If constipation was produced, small doses of castor oil, with peppermint, were given to regulate the bowels.

An embrocation of heated turpentine and laudanum was to be rubbed over the chest and abdomen as a counter-irritant and sedative.

No person can have the slightest difficulty henceforward in knowing how to act for themselves or for others. At the very first intimation of looseness, the patient should either go to the nearest dispensary, and act upon the instructions there given; or, if he cannot or will not do that at the *first* intimation, but must or will delay a little to see how he gets on, then let him, at all events, not delay an instant to take the medicine described above, or that included in the following directions of the Irish Board of Health: whichever he may find most convenient, or believe, from past experience, to be most suitable to his constitution:—"Should you

be attacked with diarrhœa or looseness of the bowels, with or without pain, and that medical advice should not be at hand, go at once to bed; wrap yourself in warm blankets; roll another warm flannel, sprinkled with hot spirits of turpentine or whisky closely round the body, extending from the chest to the hips; and take a teaspoonful of brandy or whisky in a little water, with fifteen drops of laudanum; repeating it every hour, if the attack should be not checked, until a third dose has been taken; but do not venture further in the use of laudanum without medical advice."

2. *The Causes of Cholera.*

What is Cholera? In considering the symptoms, conditions, consequences, and remedies of the disease, we purposely avoided for the moment asking this question—What is the disease itself? believing that such an inquiry may be most usefully pursued in connexion with the other question—What are the causes of the disease?

It is probable, then, that cholera is caused by an intensely poisonous gas, emitted under certain conditions of heat and moisture, from decaying animal and vegetable matter, unduly exposed to their influence. This gas, like the infectious matter of plague and yellow fever, is probably not what is called a true gas, that is, does not diffuse readily in all directions, but is borne about by the wind, and in that process rendered comparatively innocuous, until it meets with conditions favourable to its sudden development: those conditions probably being circumstances of the same kind, though less intense in degree, as those that first called it into being. The poison in its full stage of development being received into the lungs, rapidly acts on the blood (Liebig supposes decaying animal emanations to communicate a similar state of decomposition to the fluids of the body, just as yeast communicates fermentation), and then appear the symptoms of cholera as before described, and which probably depend for their greater or less degree of intensity upon the degree of virulence of the poison, and the degree of health in the frame attacked. This seems to us to be the true theory of cholera, so far as it can be described from existing knowledge, and appears to explain all the recorded phenomena. Borne in the air, it may be widely diffused in currents, notwithstanding its presumed sluggishness of motion; whilst that sluggishness and dependence upon the wind, may explain why it so often fails to reach places in its immediate neighbourhood, yet goes on to attack distant communities. The yellow fever can be shut out by protecting the house on the side from which the miasma is blown. Cholera will go up one side of a street, and leave the other untouched; will sometimes even wait for the opening of a door before it enters the house. Spring and autumn are the periods when cholera is most active: because, we presume, in them the winds that disseminate the poison are in their greatest power, and the changes in the degrees of the heat, cold, moisture, and dryness of the atmosphere are the most frequent, sudden, and extensive in their range. But why, it may be asked, does not the known di-

rections of the wind at certain periods explain the track of the cholera? Because favourable conditions for reception as well as diffusion are requisite for the poison to manifest itself; and therefore it may be that the cholera route of one period seems to agree so nearly, on the whole, with that of another: in these routes alone the wandering diluted poison finds abundant food. And thus, too, may be explained the cases which undoubtedly favour the assumption that individuals, or things borne about with individuals, do occasionally act as the means of communicating the disease from one place to another. The kind of gas supposed may lie in some very latent diffused form about such persons or things, and only becomes dangerous by being stimulated into power and activity by meeting with its natural sustenance. If this be so, the disease itself will probably be contagious or non-contagious in a popular sense (that is, diffusible or indiffusible by personal communication) just as the persons attacked preserve about them conditions favourable or unfavourable to the growth of the poison. Medical men are every where on their guard against these conditions, and will not either in or out of hospitals allow them to exist, so far at least as they know them, and the consequence is, they are for the most part unassailable. On the other hand, where the disease spreads so fast as to become for the moment unmanageable, by the amount of medical aid that can be brought to bear upon it, then, the very conditions of fresh poison and fresh disease also remain in rank luxuriance; and personal communication, under such circumstances, may help to diffuse the disease by diffusing its cause, and so people come to believe cholera contagious: which it is not; that is, the disease itself is not communicated from unhealthy to healthy persons by personal contact or intercourse.

The *conditions* then that favour the growth of this poison are the great vital questions for study. Destroy them here, and the poison, whatever it be, will fall harmless upon us. Destroy them every where, and the disease itself is extirpated. To our Government falls a sacred duty. In or adjoining our own Asiatic dominions the cholera starts first into life—hence the name Asiatic Cholera. In that country, therefore, our Government, by ceaseless exertions, systematically carried out, with the aid of all that science can suggest or perform, might possibly rid the world for ever of this terrible pest. The places over which our power does not extend might be reached by our influence, which would be indeed paramount in an effort so evidently calculated for the good of all. There will be no absolute safety for any of us, until all men are safe. Such is God's law. Such are the natural influences ever guiding us onward in the path of true Christianity.

What are these conditions? The brief and rare visits (happily for us) of cholera, and the excitement and hurry that fill men's minds on such occasions, prevent our studying it with that care and certainty that we are able to bestow on kindred epidemics. We know, however, that the same conditions favour cholera as favour typhus fever and influenza, by the fact that it is precisely

the same districts which are selected by each of them; and by the fact that when influenza, for instance, breaks out in a district where cholera had previously been, it proves twice, and in some instances four times, as fatal as in parts where the cholera had not previously existed in any severity. But indeed there appears good reason to suppose that typhus and influenza have some intimate bonds of relation with cholera. Influenza has been supposed to have preceded most, if not all, of our great mortal epidemics in past times; and this we know, that the mortality of the last quarter of the last year, 1847, was higher than that of any quarter of any year since the establishment of the new system of registration, in consequence of the prevalence of typhus and influenza. And now a twelvemonth later the cholera comes! In accordance, then, with the theory before explained, it is probable that these epidemics are but manifestations in England of precisely the same causes which in the greater heats and moisture of India produce cholera. And that when cholera comes into the districts of its weaker allies, it swallows them up in the remarkable manner noticed by many observers; precisely because it differs from them only or chiefly in its mightier powers—its more intensely poisonous state of development. It is to be remembered that diarrhœa is the constant precursor of typhus and influenza as well as of cholera. A still more significant fact is to be found in the annals of the London Fever Hospital, where, six months before the appearance of the cholera, the typhus was observed to change its character from that of an inflammatory disease, to one of debility closely resembling cholera; whilst exactly corresponding with this remarkable state, it was subsequently noticed that cholera patients, whose cases were of a lingering character, passing into fever, presented precisely the same aspect as those patients before referred to, who appeared to have gone half way from fever towards cholera.

The identity in essentials of the conditions favourable to the progress of all the three epidemics, is, at all events, fully acknowledged. What then are these conditions? By the concurrent testimony of all observers, they may be summed up as follows:—1. Moisture, and especially that of low marshy places, as by the banks of rivers. The East India cholera of 1832 showed throughout its career an unmistakeable partiality for such localities. When the cholera first appeared in England, it was by the banks of the river at Sunderland. At London, the first case occurred near the river at East Smithfield. 2. Fogs and general thickness and impurities of the air, which are especially noted in historical records as precedents or accompaniments of epidemic diseases, and of the connexion of which with cholera we have had in our own times but too many proofs. Thus an intelligent captain of a regular trader in the English channel, referring to the period of the influenza of 1831, declared that for thirty years past he had no recollection of such a long continuance of a thick and foggy atmosphere, as he had occasion to observe within the preceding eighteen months, between England and the south of Ireland. He

went so far as to state that he had scarcely made one clear passage to Liverpool and back again during this whole period. In another interesting case in the Caucasus, the fortress and suburb of Kislovodk had been attacked about three weeks, during which a battalion of infantry, lying in a space there, had remained totally unaffected; but one day a thick fog enveloped the whole town, and the camp at once found the cholera among them. 3. Cold and heat, and especially sudden alternations of both, exercise important influence over the cholera, though we know very little yet of the exact extent or character of the influence in either case. It was noticed in the East Indies that during the prevalence of cholera, hot land winds during the day, followed by heavy showers in the evening, were generally signalized by the production or increase of cholera cases. On the other hand, a low temperature, and especially sudden lowness of temperature, in connexion no doubt with moisture, and general impurity of the air, have been frequently noticed to have fatal effects during the existence of epidemic diseases. The favourite epidemic seasons, namely, spring and autumn, show this matter plainly enough. Here is another forcible illustration:—In one week of last November, the number of deaths in the metropolis from influenza and diseases of the respiratory organs was 297; towards the close of the week the average temperature sank so greatly that within four days a decrease of twenty-three degrees occurred, then a dense fog prevailed for one day, and the air afterwards was surcharged with moisture; behold the results in a mortality the next week of 670, or 373 more than that of the week before. 4. But of all the conditions of cholera, there can be no question the greatest is the miasma, or poisonous gas, or effluvia that issues from decaying animal and vegetable matter. Indeed all the other conditions of cholera are probably only of importance to it as furnishing the suitable conditions for the generation and development of this one condition. The state of our large towns during epidemics furnishes abundant illustrations. Wherever circumstances are found to favour the generation of impure exhalations, as where foul drains exist, open ditches and sewers, large cesspools, night soil exposed to the action of the atmosphere, undrained filthy streets and courts, &c. &c., there will typhus fever be found an almost permanent resident; there will influenza be most frequent in its visits; there will cholera commit the greatest havoc. Take a few cases, selected almost at random. There occurred recently at Lambeth, within a period of about six months, and within a space occupied chiefly by seven short courts or alleys, 638 cases of diarrhœa, 77 cases of typhus, and 72 of scarlet fever! No wonder: this is the brief description given of the same district—it contains numerous open ditches of the most horrible description; cleansing, paving, and water supply are all grievously defective or totally wanting. In the beautiful village of Hampstead again, and which is naturally as healthy as it is beautiful, which even remains so for the most part notwithstanding man's incessant pollution of it, there occurred within a

similar period, 18 cases of diarrhœa and 34 of typhus, in one street of 26 houses only. But there is nothing to be astonished at in such figures, when we know that the sewerage and drainage are there lamentably deficient, and that water is sold at a penny a bucket, except, indeed, we are astonished that the wealthy inhabitants of this place should be so blind to their own welfare, and so careless of the welfare of the poor, as to remain supine under such unnatural inflictions. "If, as is justly observed by the Registrar-General, in the present social condition of the civilized world, the vast population of different and distant nations are intimately united; if it be true that, were the health of India sound, Europe might be safe, and hear no more of the epidemic which is now traversing Russia; if the lives of thousands in England depend on the condition of the pariahs of Jessore,*—much more in one and the same town or city must the health of the wealthiest portion of the inhabitants depend on the salubrity of the poorest. By past experience, we are taught that if the Asiatic cholera should again appear amongst us, no district will be secure from its ravages, and although those in which the system of sewerage and cleansing is the worst would be most liable, the nidus so afforded would be a source of peril to all classes."

The facts we have stated as to Lambeth and Hampstead, are but an example of the state of the metropolis generally. That this should be so is the more extraordinary when we consider how great has been the reward attending every effort at improvement. How cheering to men in earnest should be the enunciation of the fact that places such as Holywell-lane and Long-alley, accustomed before drainage of the district to contribute its 500 cases of diarrhœa and typhus to the sum total of metropolitan sickness, should, after drainage, remain exempt from disease; that places such as the two courts in Whitechapel mentioned in the Report before us, where fever had taken possession of every house, became at once healthy by the mere process of draining!—that the Model Lodging House in Glasshouse-yard, tenanted we may be sure by no very robust and healthy population, should remain nearly exempt from influenza, while almost every family in almost every house in the same court were suffering from the disease; but then sanitary science had been called in to aid in the one case, and had been left unsought in the other.

The true remedies then for cholera are the removal of all the conditions that enable it to exist and thrive among us, and these are all summed up into one point—the wholesomeness or unwholesomeness of the air. It is the air which is affected injuriously before cholera can obtain any power. It is that which must be dried, and made genial, and equable, and pure, by due attention to all the circumstances within our reach that affect it. Few persons perhaps are aware how much influence we may have over the atmosphere; although, if they reflect that ague has been every where banished by the mere process of drainage, they will at once

* Report of the Sanitary Commission, 1848.

see it is an inquiry that promises to repay well all the attention bestowed on it. By a complete system of drainage and sewerage in all inhabited places, accompanied by ample supplies of water, and by the removal of all nuisances that give forth impure exhalations, we at once secure freedom from miasma. By drainage of the whole of the cultivable soil of the country we wonderfully increase its productiveness; we free its surface from marshes and marshy exhalations; we enable the morning sun to dry up rapidly that natural moisture which would otherwise lie on the surface during the colder months of the year, and so to actually secure fine weather itself; we raise the temperature; and, lastly, we make the temperature more equable by bringing all soils to a more uniform standard, so that they are all warmed and cooled nearly in the same time.

The air of a country thus purified, using that word in its highest sense to express the best possible state for human respiration, how simple afterwards become all our labours. We have only to take care that it shall every where have unlimited means of access to our apartments, our sleeping rooms, our workshops, our public assemblies; bring that air in, and let all other go out, and we are at the goal beyond which there will be nothing to be desired. Even as matters are, half our difficulties are imaginary; most of our alarms gratuitous, unless indeed we wish to sit still and do nothing. Here is a case in point worthy deep consideration. Dr. Leeson, speaking of a hospital, says, "Our present practice, contrary to that of former years, is to place our typhoid cases indiscriminately among the other patients, and we then depend upon good ventilation for the protection of the other patients. We introduce so much pure air into the wards, that we largely dilute, and thus pass off, those noxious exhalations, whatever they may be, which in the close-crowded chamber would no doubt have been the occasion of spreading the disease. We found that when we concentrated the patients in one ward, the air was rendered so impure that it spread the disease, and that it was more fatal than when we disseminated the cases among the other patients. Now we very seldom find it spread; and our mortality, as compared with former years, is very much diminished."

Nature itself then, properly understood, is her own disinfectant, and if we use artificial aids, let it be clearly understood that we are *curing nothing;* we are only in the most successful cases destroying that gas which smells badly, and which nature has made to smell badly, in order that you should know such an evil is lurking about you; and yet, wise and grateful men that we are, we want to destroy the warning so beneficently given. The City authorities appear at the very time we are writing to be busily engaged in this sage endeavour, instead of setting earnestly to work to reform all those points of their civic economy, or rather civic waste, which cause the wealth of the soil to be turned into the poison of the air. How long do they mean to dally with the health and happiness of the millions of persons who are affected directly or indirectly by the poisoning of the waters of our noble

river, for instance, and by the artificial scarcity of water from any other source?

Is it to be expected or hoped that the masses of the people of England, about whose homes the conditions of cholera are yet reposing in alarming abundance, are aware of their danger, and will at once seek to avert it by simultaneous enlightened zealous exertions? It were the height of insanity to suppose any thing of the kind. Depressed in mind, too often scantily supplied with nutritious food, therefore also weak in body, holding little converse of a right kind with the other classes of society, whose influence might be beneficial to them, they remain partly ignorant, partly reckless of the danger that threatens them. What then is to be done? Cholera will not, cannot be checked by any partial movements. The defence must be on as vast a scale as the attack. Every where the enemy lurks; every where we must be prepared to meet him. How is this to be accomplished? Clearly by no machinery short of that which shall apply to every house in every street of every village, town, or city of the empire. Let us not, however, be appalled at the vast character of the requisite machinery. Dr. Crawfurd, in a pamphlet just published by the Sanitary Commission, has put forth a most happy suggestion, one equally simple and potent, and upon which there can hardly be a difference of opinion. It is that of

Local District Visiting Boards,

composed of the inhabitants themselves. In detail, Dr. Crawfurd's plan is—

To divide every parish into a number of small districts, consisting of only a few streets; to form in each district a local district board, consisting of the clergy of every denomination, the medical men, and some of the most respectable housekeepers of both sexes; to which we would add an equal number of the more intelligent working men. Employers generally would, we are sure, for such a purpose spare some of their hands, two or three hours daily, without deducting any thing from their wages; and the delicate nature of the task makes it advisable that it should be fulfilled in a delicate spirit. No class jealousy should be aroused.

Dr. Crawfurd then purposes to allot to each member of this board the inspection of one street, or of one section of a street, with the understanding that he is to visit every day all the houses of that district, in order to ascertain the state of health of the inmates, and to urge attention to the rules of diet and clothing, and the importance of their applying immediately for medical assistance if required. Would it not be better, as giving more weight to the visit, that two or three persons should go together? In the generality of districts there can be no deficiency of persons able and willing to perform the duty.

Another most important office of the visitors should be to attend to the draining and cleansing of the houses and streets, and to the adequate supply of water. Dr. Crawfurd adds, "it would be

extremely beneficial to provide the poor, living in low, damp, and imperfectly ventilated rooms, with fuel to light fires, as the best means of purifying and renewing the air," as well as, let us add, of creating a more genial temperament. Should not any serious deficiency of food and clothing also be noticed by the visitors, and some mode of supply established fitted for a time like this?

These District Boards should be in communication with the general Board of Health of the town or country.

The difficulties of the plan, we apprehend, are these: the possible neglect of the inhabitants in many parts to establish such boards, and the refusal of many of the parties visited to receive the visitors properly, or to act upon their directions. With regard to the first nothing ought to be left to chance, and therefore the Government should act at once. By means of the ministers of the Church of England, the different classes of official persons scattered over the country, especially the Poor Law guardians and officers, and the municipal bodies in towns, the Government could ensure the immediate movement of suitable persons, and they could ensure the formation of such district bodies. In this, or some other way, Government, by exercise of the ordinary power and influence it possesses, or by the extraordinary ones with which it has been vested for the express object of preserving the country against the disease, could rapidly establish this great machinery. And if any further power were needed, who can doubt that the Ministry should at once take it in favour of the people, and look for its absolution at the hands of the people's representatives when they next met? As to individuals, where their unwillingness or refusals refer solely to their own individual welfare, nothing beyond kind explanation and earnest entreaty ought to or can be permitted; but where the matter concerns the welfare of us all, as the state of the drainage, water-closets, dust holes, &c. of a house and its precincts, then there should be power to enforce the requisite examination and remedy. One thing is clear; such examinations must be applied with perfect impartiality. Public nuisances are by no means confined to the dwellings of the poorer classes. And the very principle of the measure requires that nothing shall be presumed to be right that can, and therefore ought to be examined, to see if it be right.

The labour of such boards need not be severe while they last, nor is it at all probable they will last long. The duration of the cholera in a place seldom exceeds two months. Let every one then forward, each in his way, the development of this admirable scheme, and the safety of thousands of lives that would otherwise be lost, will, in all probability, be the reward.

*** In page 87 of the Companion for 1848, it was stated that "the pig-styes" of Birmingham had greatly aggravated the ravages of the cholera; but as the cholera never visited Birmingham, that part of the statement is incorrect, though the fact of the nuisance of the "pig-styes" is incontestable.

IV.—FARM-PRODUCE OF IRELAND IN 1847.

In the midst of the trying difficulties which beset Ireland and its government, it is fortunate that we now possess a vast amount of trustworthy statistical information concerning that country; the whole of which will, one day or other, become available for the purposes of legislation and social enterprise. While the parliamentary discussions of the last twenty years have been going on, the actual condition of Ireland stood in danger of being buried altogether under the pressure of party contests; had not the Irish government appointed, from time to time, Commissions and Boards to inquire into the actual and numerical data which illustrate the condition of the people—such as population, division of the land, occupations of the people, produce of the soil, organization of the fisheries, &c. The results have been embodied in the papers published by order of the Government and of the House of Commons. Among these documents are two published in 1848, on which it is mainly the object of the present article to treat.

The collection of correct agricultural statistics is a difficult matter. The analysis of soil, the productiveness of fields, the produce for any given year—all may be easily determined for a few farms; but the determination for a whole country is an enterprise of a vast and intricate nature. Such attempts have been made occasionally in England; but the most complete thing of the kind yet effected has been in Ireland, under the auspices of the Earl of Clarendon.

Mr. Montgomery Martin, in the third edition of his "Ireland before and after the Union," gives the following synoptical view of various points bearing on the productive resources of Ireland:—

Area in English square miles.....	32,433
Square miles of arable land	21,031
Inhabitants per square mile of arable	388
Houses in 1841	1,384,360
Value of landed produce, in 1831	£45,626,563
Annual rental to proprietors	5,607,369
Average rent of land.....	about 13*s.*
Value of live stock in 1841	£434,740

These numbers are derived from Parliamentary documents. The same writer gives the following comparative view of the productiveness of the three kingdoms:—

	Arable and Gardens.	Meadows, Pastures, and Marshes.	Improveable Wastes.	Unimproveable Wastes.	Total Land Area.
	Acres.	Acres.	Acres.	Acres.	Acres.
England and Wales.....	11,143,370	17,605,630	3,984,000	4,361,400	37,094,400
Scotland	2,493,950	2,771,050	5,950,000	8,523,930	19,738,930
Ireland	5,389,040	6,736,240	4,900,000	2,416,664	19,441,944
United Kingdom	19,026,360	27,112,920	14,834,000	15,301,994	76,275,274

It is admitted, however, that the means hitherto adopted for obtaining such data in England and Scotland, are not so accurate as those employed in Ireland.

Confining ourselves to these three elements—the subdivision and classification of farms; the estimated valuation of the land; and the actual agricultural produce in some given year—we proceed to group together a few details collected from various Parliamentary papers.

In the Report of the Irish Census Commissioners for 1841, there are a few entries bearing on the relation between population and agricultural area, which we here throw into the form of a short table.—

	Arable Land, Sq. Miles.	Whole Area, Sq. Miles.	Pop. to Sq. Mile of Arable.	Pop. to Sq. Mile of whole area.
Leinster	6,190	7,595	247	202
Munster	6,054	9,453	332	212
Ulster	5,324	8,547	406	253
Connaught	3,407	6,857	386	195
	20,975 (total.)	32,452 (total.)	335 (average)	217 (average)

Some of these figures differ slightly from those of Mr. M. Martin.

The plantations in Ireland, in 1841, were thus estimated in acreable extent:—

Oak	29,536	Acres.
Ash	6,042	,,
Elm	1,417	,,
Beech	3,274	,,
Fir	25,239	,,
Mixed	280,096	,,
Total	345,604	Acres.

The live stock found upon the Irish farms was thus estimated. In the whole country there were about 2 horses to every 3 farms; of cattle there were about 2 to each farm from 5 to 15 acres, and increased to an average of 13 to each farm above 30 acres; of sheep there were about 2 to each small farm, but the number varied very irregularly in the larger farms; of pigs the number was said to be found much less than is ordinarily supposed, varying from 1 to each small farm, up to 5 on the larger farms; poultry varied from 5 in the small farms, up to about 20 in the largest; asses varied in number from 1 to every 10 small farms, up to 1 to every 5 large farms.

In relation to the extent to which the soil of Ireland is divided among different holders or renters, the following is given from a document introduced, in 1846, in the Report of the Committee for inquiring into the Laws relating to the Relief of the Destitute Poor in Ireland. The total number of persons holding land was 883,097; giving an average of rather less than 22 acres to each holder. The holdings were divided into several classes, according

to their size; and the number of holdings in each class was as follows:—

	Number of Holdings.		Number of Holdings.
One Acre or less	124,487	20 to 50 Acres	130,681
1 to 2 Acres	50,233	50 to 100 „	42,772
2 to 3 „	35,868	100 to 200 „	15,458
3 to 4 „	45,135	200 to 500 „	5,947
4 to 5 „	52,071	500 to 1,000 „	1,127
5 to 6 „	36,468	1,000 to 2,000 „	284
6 to 7 „	40,374	2,000 to 3,000 „	46
7 to 8 „	35,549	3,000 to 4,000 „	11
8 to 9 „	40,822	4,000 to 5,000 „	3
9 to 10 „	34,792	Above 5,000 „	6
10 to 20 „	186,155		

Of the 883,097 holders of land, 714,253 were separate holders, and the remainder were holders in common or joint tenancy. The number of acres held in joint tenancy was 1,902,547.

Mr. Griffith, the Commissioner of Valuation for Ireland, has given among the Parliamentary Papers an outline of the system on which that valuation is conducted. A scale of prices for agricultural produce was laid down in the Act which authorized the valuation; this scale was founded on the average prices throughout the principal maritime markets of Ireland, during a given period, when such prices were considered to be low. Mr. Griffith had previously ascertained that the average prices in the principal markets, in the five years ending 1830, was about one-eighth more (2*s.* 6*d.* in the pound) than those given in the Act. His duties consist in putting a value on all the land of Ireland in reference to the produce fitted to grow therein, and to the market value of that produce. He appoints valuators, who examine the surface of the soil, dig up portions of it, and determine the nature, quality, and depth both of soil and subsoil. These items furnish the primary valuation, which is afterwards modified according to local and special circumstances; such as drainage, farm improvements, good or bad roads, vicinity to markets, state of the tillage or rotation of crops, vicinity or otherwise to cities, towns, limestone quarries (for manure), sea manure—and a multitude of other circumstances which increase or diminish the money value of a farm or estate. The portions of land are placed in five classes according to their quality; and the value of a statute acre, and the proportions of produce estimated as rent, were taken as follow:—

Classes.	Rent per Acre.	Proportion of Produce for Rent.
	s. *s.*	
Arable Land (best)	20 to 30	One-fourth
„ „ (second)	10 to 20	One-sixth
„ „ (third)	under 10	One-eighth
Pasture Land	20 to 30	One-half
Inferior and Mountain Pasture		One-third

It is to this primary valuation that modifications are made according to local and special circumstances.

In commencing the valuation of a county, several valuators are sent into it, each taking a barony or district. The barony is divided into parishes and townlands, and the valuator sub-divides these into lots of 50 acres or less. Each lot is examined separately, and a value put upon it according to the judgment of the valuator in respect to the agricultural capabilities of the soil. The field books and field maps prepared by each valuator are then sent to the Valuation Office at Dublin. Another experienced valuator is sent down to examine one lot out of every six or eight previously examined; and if his estimates agree pretty nearly with those of the former valuator (which he is not allowed to see) it is considered that the whole may be relied on. Then comes the allowance for local and special circumstances, which is made by skilful persons, according to certain rules determined on as being most equitable. When all the townlands of a county are thus valuated, an experienced person is sent to the county, to submit the valuation to the principal landed proprietors and others capable of forming a correct judgment in the matter; and any corrections are made which seem based on sound data. A *house* valuation is also made, according to tables, in which every circumstance that can modify the value of a house is, as far as practicable, clearly set forth: the size, the age, the material, the condition, the situation—all are taken into account. The whole of the inquiries for any one parish being concluded, the valuation is printed and sent to the parish. A special vestry is then summoned, to consider the propriety of appealing against any part of the valuation, as compared with another; and if any such appeals are determined on, a Committee of Appeal, appointed by the Grand Jury, meet for that purpose. It is understood, however, that such has been the care and impartiality observed in the valuation, that complaints or appeals have been very rarely made to the amounts of valuation.

This valuation is made primarily, to determine the proportions in which certain local rates and taxes shall be borne by different districts; but it becomes also important for many other purposes. It has been many years in progress, and is not yet completed. Down to November, 1843, there were nine Irish counties completed; ten completed, all except the Vestry sanction; three with the field-work completed, but the office-work yet to be done; seven, in early progress; and five not yet commenced. The valuation has progressed steadily ever since. An act was passed in 1846 (9 and 10 Vict. c. 110) relating especially to the valuation of the counties of Dublin, Tipperary, Waterford, Limerick, Cork, and Kerry. By a Report sent in by the Commissioner of Valuation, dated June, 1848, it appears that all the counties are in progress, and that the valuation will be completed in 1850. The valuation is made by counties, baronies, parishes, townlands, and tenements; and the returns are made in the form available for Poor-law purposes in the first instance, and for county assessment afterwards. The only county, out of the six last-named, which was completed

up to June, 1848, was Dublin, the valuation of which (excluding Rathdoun) was 510,256*l.*

We now proceed to the documents which are more especially the object of the present article.

In the year 1847, the Earl of Clarendon, as Lord Lieutenant of Ireland during a very trying period, wished to ascertain as clearly as possible the actual amount of land under cultivation in that country, in that year; and the kinds and quantities of produce grown. The inquiry was entrusted to Captain Larcom, who has, for more than twenty years, been engaged indefatigably in various statistical and topographical researches in Ireland. Capt. Larcom selected a *townland* as the unit of area; being smaller than parishes or baronies, and larger than single farms. An Irish townland is, on an average of the whole country, equal to about three-quarters of a mile square. The Constabulary Force of Ireland — an admirably organized body of men, thoroughly acquainted with the surface of the country—was selected to make the enumeration; the men were grouped in districts, each under the command of an officer, who was supplied with the requisite maps, plans, and lists; and who divided his force into such sub-sections as he deemed most convenient.

The enumerators were furnished with various printed papers, relating to the area of each townland under culture, the nature of the crop, and the richness of the produce; and when these papers were filled up, they were sent to Dublin, where the returns were digested and catalogued, and classed in a very complete way. The extent of the labour involved in this office-work may be seen from this fact, that there are 60,760 townlands, concerning each of which there are no fewer than twenty-four entries of facts or returns, making a million and a half of recorded facts, all of which had to be tabulated. The utmost available precautions were taken to make the returns as accurate as possible. Captain Larcom, speaking of the Constabulary Force by whom the facts were obtained, says: "It is due to that exemplary body to dwell most strongly on their entire and zealous devotion to this novel duty, so long as it was required of them; often at a cost of much personal inconvenience, at a distance from their quarters, in remote districts and islands. To the admirable discipline and organization of that body it is due, that the most general and extensive inquiry can be conducted in Ireland with as much precision and exactness as a model operation on the most limited scale."

As the crops had to be estimated while yet standing, in many instances, it became necessary to devise some mode of allowing for the relative richness or thickness of crop. For this purpose, *Wheat* was divided into four classes; of which, the first included such crops as would yield more than nine barrels of 20 stones, to each statute acre; the second, 6 to 9; the third, 5 to 6; and the fourth, under 5. The other crops were similarly divided, each into four classes: thus *Oats* range from 5 to 11 barrels of 14 stones, to the acre; *Barley*, from 7 to 12 barrels of 16 stones; *Bere*, from 6 to 10 barrels of 16 stones; *Rye*, from 7 to 11 barrels of 20 stones; *Potatoes*, from 31 to 93 barrels of 20 stones; *Turnips*,

from 12 to 21 tons of 160 stones; *Beans*, from 24 to 39 bushels of 8 gallons; *Peas*, from 18 to 37 bushels of 8 gallons; *Mangel-wurzel*, from 12 to 24 tons; *Carrots*, from 9 to 15 tons; *Parsnips*, from 7 to 11 tons; *Cabbage*, from 9 to 19 tons; and *Hay*, from $1\frac{1}{4}$ to 2 tons; and between these limits the quantities were divided into stages, according to the classes.

Captain Larcom points out the necessity of observing caution in drawing conclusions from this Return, in respect to the potato and turnip crops. "While the total quantity of land under preparation for cereal (corn) crops may, from these tables, be compared with the total producing those crops, with a view to the prospects of a future year; it is necessary to bear in mind that the last season has been one of so remarkable a character, from the doubtful prospect of the potato at its commencement, that various deductions as to the state of agriculture, which such tables would afford in ordinary years, cannot safely be drawn at present. In regard, for example, to the culture of turnips, it must be remembered that in the remote and populous districts, where regular rotation of crops had scarcely been introduced, they have been sown from necessity rather than from foresight, and by no means to the same extent to which potatoes would have been planted. They were sown, in fact, in despair, as the food of man, not of cattle."

The manuscript returns, preserved in the office of the Board of Works at Dublin, give all the details down to individual townships; but in publishing the results for general information, it was not deemed necessary to be so minute. The printed returns as to the crops (issued in April, 1848) gives the information for provinces, counties, poor-law unions, and electoral divisions; but not to such small portions as parishes, baronies, or townlands. There are, on an average, about 330 acres in a townland; from 50 to 60 townlands in an electoral division; about 15 electoral divisions in a poor-law union; and 130 poor-law unions in the whole of Ireland. As the object here in view is to present only a few general results, we shall be content simply with the division of the country into four provinces. (See the Table at p. 59.)

From this Table we learn that more than twice as much oats was cultivated, as of all other kinds of grain together; that the quantity of turnips (owing to the peculiar circumstances of the season) was nearly three times as great as of potatoes; that the weight of hay grown was near about equal to that of potatoes; and that Ulster was the chief province for oats, beans, and flax. Taking the produce in connexion with the population for 1841 (8,175,124), and without reckoning for subsequent increase, it was found that the produce of cereal food in the whole country gave 698lb for each individual; 135lb in the least fertile union, and 1,540lb in the most fertile union. Taking the four provinces, these numbers became, in Leinster, 895lb; in Ulster, 775lb; in Munster, 595lb; in Connaught, 469lb. Of the potatoes, there were 561lb per individual, equal to about $1\frac{3}{4}$lb per day, against 2lb per day of cereal crops. The cereal crops, for the whole

EXTENT of LAND under CROPS, in 1847.

	Acres of Wheat.	Acres of Oats.	Acres of Barley.	Acres of Bere.	Acres of Rye.	Acres of Beans.	Acres of Potatoes.	Acres of Turnips.	Acres of Meadow & Clover.	Acres of Flax.	Acres of other Crops.	Total Acres under Crops.	Total Area of Ireland.
Leinster ..	277,147	564,711	98,555	23,899	3,411	7,860	68,141	109,857	451,339	1,644	27,733	1,634,297	4,876,211
Munster ..	317,567	384,159	106,116	11,315	2,086	1,779	99,372	114,833	315,848	1,156	16,669	1,370,900	6,064,579
Ulster	88,206	957,307	41,718	11,049	4,436	13,795	87,186	107,261	263,149	53,701	22,154	1,649,962	5,475,438
Connaught	60,951	294,693	37,198	2,805	2,482	334	29,417	38,393	108,610	1,811	6,722	583,416	4,392,043
	743,871	2,200,870	283,587	49,068	12,415	23,768	284,116	370,344	1,138,946	58,312	73,278	5,238,575	20,808,271

From these details, we see that almost exactly one-fourth of the whole area of Ireland was under crop in 1847; that about one-sixth of the whole area was under corn culture; and that about one-eighteenth was pasture and clover.

QUANTITY of PRODUCE, in 1847.

	Quarters of Wheat.	Quarters of Oats.	Quarters of Barley.	Quarters of Bere.	Quarters of Rye.	Quarters of Beans.	Tons of Potatoes.	Tons of Turnips.	Tons of Hay.	Cwts of Flax.	Tons of other Crops
Leinster ..	1,139,458	3,069,076	495,091	136,956	18,512	28,333	502,499	1,660,890	862,482	9,864	393,034
Munster ..	1,198,259	2,011,280	500,074	61,000	9,564	6,139	680,959	1,772,859	632,125	6,936	224,182
Ulster	357,736	4,945,092	194,422	60,414	22,525	48,853	642,641	1,768,973	489,737	322,206	272,675
Connaught	231,280	1,496,158	189,442	15,646	12,493	1,131	220,096	557,894	205,973	10,866	86,442
	2,926,733	11,521,606	1,379,029	274,016	63,094	84,456	2,046,195	5,760,616	2,190,317	349,872	976,333

country, gave an average produce of 5 quarters per acre; potatoes, 7 tons per acre; turnips, 15 tons per acre; and hay, 2 tons per acre.

The second portion of this valuable Report (concerning Live Stock) was published more recently, in September, 1848. It was found that, in 1847, there were 803,025 holdings, on which the live stock amounted to the following numbers:—

Live Stock in Ireland, in 1847.

	Horses and Mules.	Asses.	Cattle.	Sheep.	Pigs.	Goats.	Poultry.
Leinster ..	175,698	34,598	669,320	743,823	205,010	42,492	1,674,039
Munster ..	160,305	32,289	729,819	608,124	261,243	60,999	1,684,775
Ulster	155,597	22,239	834,874	238,493	111,733	40,891	1,567,587
Connaught	66,317	37,229	357,402	595,737	44,473	19,661	764,654
	557,917	126,355	2,591,415	2,186,177	622,459	164,043	5,691,055

From this Table we gather that the live stock are about half as many again as the human population; that cattle are more numerous in Ireland than sheep; that the province (Ulster) which is richest in cattle, is the poorest in sheep; that there are nearly as many horses as pigs—a ratio which would probably not be observed in plentiful years, when pigs are more abundantly reared in Ireland. It was found, on comparing the numbers with those given by the Census Commissioners in 1841, that although cattle, sheep, and asses had increased in number in the intervening six years, horses, pigs, and poultry had decreased. This decrease is taken as a significant proof of the calamitous season of 1846; and Captain Larcom remarks, "it is obvious that the pigs and poultry, usually productions of the smaller holdings, exhibit a formidable decrease on those holdings, and indeed on the whole; not being compensated by the increase on the larger farms." There was a decrease of 787,439 pigs, and 2,756,648 poultry, in 1847, as compared with 1841.

We may confidently expect that these returns will form the basis of valuable comparisons in future years.

V.—ON THE PROGRESS OF ORGANIC CHEMISTRY.

Chemistry is the science which contemplates the properties of the elements of matter, and the relations which they bear to each other. The chemist is thus engaged not only in studying the composition of the various forms of matter, but the laws which regulate the combination of the elements of compound bodies. Amongst the ancients, and during the dark period of European history, this science could be scarcely said to have existed. It is true that the false aim of the alchemist led him to make many observations on the properties of various substances, which, when human inquiry had been placed upon a rational foundation by Bacon, were made use of by the chemist. The first chemical inquiries were directed to the properties and composition of solid bodies. The science founded upon these observations was, however, very imperfect till the latter end of the last century, when the discoveries of Priestley led to the investigation of the various gaseous elements, the presence of which had scarcely been suspected, and whose influence upon the combinations of all solid substances was of the most decided kind. The discovery of oxygen gas, of the composition of water and the atmosphere, awakened an activity amongst chemists which resulted in the most important investigations and discoveries. New elements were every day added to the list, and the old ones were found to possess new properties. Dalton discovered the great law, that all bodies combine together in definite proportions. Berzelius not only defined this law more accurately, but performed the task of ascertaining the precise numbers, the proportions in which all the elements united with each other. In giving, also, a more extended application to the use of symbols, Berzelius contributed a powerful instrument to the advance of chemistry.

Thus far the chemist had worked with inorganic nature. The elements of matter worked into the forms of plants and animals had hitherto defied his efforts, or by their excessive complicity had made him despair of arriving at their ultimate composition. The physiologist was, however, compelled to regard the subjects of his study from a chemical point of view, and for the first rude attempts at animal chemistry we are mainly indebted to his exertions. The apothecary, also engaged in the preparation of vegetable medicines, had been led to inquire into their composition; and through his exertions the alkaloids and other compound bodies in plants were discovered. The honour, however, must be given to Berzelius,* of first having pointed out the great fact that the elements of the matter, of which organic substances are composed, are amenable to the same laws of combination as those of inorganic substances. This fact once clearly apprehended, it then became only a work of time for the chemist to obtain as much knowledge of the composition of animal and vegetable bodies as he possessed of mineral substances. Although the results obtained by the chemist in this

* Berzelius died at Stockholm on the 7th Aug. 1848, in the 69th year of his age.

field of inquiry are not of so perfect and definite a kind as in the inorganic kingdom, yet within the last few years this department of inquiry has made most rapid progress, and some of the general facts already made out are of the most interesting and important character. It is to some of these that we wish in this paper to draw more particular attention.

It was early found in the investigations of the organic chemist that animal and vegetable bodies contained much fewer elements than were found in the inorganic world. In fact, nearly all organic substances were found to be compounds of four elements,—carbon, hydrogen, oxygen, and nitrogen. These four substances were well known to chemists. *Carbon*, in the form of charcoal, had been long known to be an important Constituent of both animal and vegetable bodies. Its power of combining with oxygen gas, and forming carbonic acid gas which was first described by Black in 1757, has been long known to chemists from the researches of Lavoisier. Carbonic acid gas, in combination with the oxides of the metals, is found in very great abundance in the various rocks and strata of the earth. In its pure state carbon constitutes the diamond, the inflammable nature of which was suspected by Newton, and demonstrated to be carbon by Lavoisier. *Hydrogen*, like carbon, is a very inflammable body. It was first discovered by Cavendish, in 1766. It is a gas, and the lightest substance in nature. In union with oxygen it forms water, which, either pure or in combination with other substances, constitutes a very large proportion of the matter on the surface of the earth. Hydrogen unites with carbon, and forms an exceedingly inflammable series of compounds, one of which is used for artificial illumination, under the name of carburetted hydrogen. *Oxygen* gas, the discovery of which by Priestley in 1774 may be regarded as one of the most important events in the history of chemistry, is what is called a supporter of combustion; that is, it unites with other substances with so much force, that heat always, and frequently heat and light, are the consequence. This powerful agent is every where found in nature; combined with the metals it constitutes a principal portion of the solid matter of the globe; in union with hydrogen it forms water; and, mixed with nitrogen, it makes a fifth part of the atmosphere. Of these four substances, *nitrogen* is most inert. It was first noticed by Rutherford, in 1772, and found to be a constituent of the atmosphere by Lavoisier, in 1775. Combined with hydrogen it forms ammonia, the substance which gives pungency to the common smelling salts and sal volatile.

Such are the four substances which were well-known to inorganic chemists, and which are found to be so universally present amongst plants and animals, that they have been called organic elements. It must not, however, be supposed that animal and vegetable substances contain no other elements. When it was first discovered how important these elements were in the organic world, the inorganic elements, as the remaining elementary substances were called which were found in the tissues of living bodies, were sup-

posed to be merely accidental; but within a very recent period it has been found that the small quantities of mineral matters that have been found in organized tissues, are frequently essentially connected with the existence of the tissue. Such mineral substances are now found to be introduced into the system of plants and animals, either on account of their physical properties, or the chemical changes which they induce. Thus we find in man that phosphate of lime is deposited in his bones for the purpose of giving to his skeleton that amount of firmness which would enable it to resist the action of the muscles which are attached to it. On the other hand, the oxide of iron is found in the blood of man, and most of the higher animals, and appears to assist in the chemical changes which take place in the system during respiration. The same thing is also observable with plants. Silica appears to be necessary to the growth of the stems of palms, of grasses, and of many other plants belonging to the endogenous class; and its use in the system of these plants seems to be that of giving to their stems physical strength. On the other hand, sodium and potassium are taken into the plant with some chemical end in view. The presence of sodium in sea-water determines the whole character of our marine vegetation, whilst potassium is almost entirely found in our inland vegetation, and performs an equally important part. This subject has but recently engaged the attention of chemists, but it seems full of promise, and likely to result in the most important practical applications. An illustration or two under this head may be interesting.

It is only recently that the vegetable physiologist felt himself competent to offer an explanation of the practice so constantly had recourse to in agriculture, called the *rotation of crops*. De Candolle, however, took the hint from some experiments performed by Macaire, and explained this process on the ground that the roots of plants were excreting organs, which were constantly throwing off matters poisonous to themselves into the soil, and concluded consequently that plants would not grow so well when continuously grown in the same soil. Hence the farmer changes his crops from year to year, seeing that the poison of one kind of plant is not injurious to another, and at last to get rid of all the poison excreted by the series of crops, he allows his ground to lie fallow. This theory, although very generally adopted, is founded on erroneous data, as it has not yet been demonstrated that any excretion, poisonous to itself, is thrown off from the roots of a plant. The true explanation of the practice of rotation has been discovered in the inorganic constituents of plants. It has been found that a plant, or a series of plants of the same kind, will grow in a particular locality so long as it is supplied with the inorganic constituents necessary for its growth. As long as these are supplied it continues to flourish. Thus, in soils furnished with abundance of the phosphates, wheat has been known to be cultivated for above fifty years in succession, whilst no rotation or fallow will enable it to grow if these are deficient. What is really effected then in the practice of rotation and fallow, is the giving the

surface soil time to get mixed from beneath with those constituents which are necessary for each crop. So convinced was Liebig, the great German chemist, of this being the true theory of rotation, that he has invented a manure, which, by supplying the inorganic substances to the soil, will prevent the necessity of having recourse to the practice of rotation or fallow. It ought, however, to be borne in mind that we are by no means acquainted with all the special inorganic constituents that are required by each plant, and consequently it would be no matter of surprise if such artificial combinations as Liebig's manure should entirely fail to answer the object for which they have been invented.

To take another instance, Liebig, in his late work on the 'Chemistry of Food,' showed that, amongst the inorganic constituents of the flesh of animals, potassium was the distinguishing ingredient. This was contrary to the blood, in which the metal sodium was found in largest quantities. The statement of this fact led to a series of observations by Dr. Garrod, of London, which are likely to have an important practical bearing on the treatment of a very destructive disease. Shortly after the publication of Liebig's analysis, Garrod had his attention turned to the occurrence of scurvy in three public institutions in this country. On examining the dietaries of these establishments they were not found to be deficient in good wholesome food; at the same time it was observed that even where the dietaries were lower than these that no scurvy had occurred. This led to the examination of the inorganic constituents of the various dietaries, when it was found that those articles of diet, which formed the dietaries of the establishments where scurvy had occurred, contained much less potash than those where scurvy had not appeared. This led to the analysis of the blood of patients labouring under scurvy, when it was found that it was deficient in potash. This step was still further followed up by the treatment of a person labouring under scurvy with potash, who got entirely well, and the examination of those substances, such as lemon juice and various other agents, which are known to arrest the progress of scurvy, when it was found that they also contained large quantities of potash. These instances will serve to show the important results that have already been obtained by the application of chemistry to the investigation of the inorganic constituents of plants and animals.

The chemical laws which regulate the combinations of inorganic elements, and of those which enter into the composition of organic substances, present some general points of difference which have been recently made out, and to which we shall now recur. In the first place, the manner in which the elements of organic and inorganic bodies are associated differ. The inorganic are always characterized by what is called a *binary* plan of combination, which consists in union taking place between pairs of elements, and the double bodies thus formed uniting again in pairs to form more compound bodies. Thus oxygen and iron unite to form oxide of iron, and oxygen and nitrogen to form nitric acid, and the nitric acid and oxide

of iron unite together to form a compound called the nitrate of oxide of iron. This compound is again capable of uniting with other compounds similarly formed; and thus all the combinations of inorganic elements are effected by means of this pairing. But the case of the organic elements, with the exception of those compounds, such as water, carbonic acid, &c., which are common to both series, is quite different. Here we find three out of the four, or the whole four combined together, forming a single whole, without any special relation of one element to another. Thus starch has a composition of

Carbon	24 parts
Hydrogen	20 ,,
Oxygen	20 ,,

Quinine, the active principle of the Peruvian bark, has a composition of

Carbon	20 parts
Hydrogen	12 ,,
Oxygen	2 ,,
Nitrogen	1 ,,

The number of such compounds already found to exist is very great, and there seems to be no limits to the possible varieties produced by the combinations of these four elements. A simple sum in permutation will not give us these limits, for, for aught we know to the contrary, each of these elements will combine with the other in proportions from one to one thousand, and the addition or subtraction of a single proportion changes the character of the whole.

Another source also of variety in the organic elements, as of difference from the inorganic, is in the phenomena of what Berzelius called isomerism.* This term is applied to a series of compounds, which have the same identical properties, but differ in their properties. Thus there are two cyanic acids, both consisting of cyanogen (a compound of carbon and nitrogen) and oxygen, in the same proportion, and possessing entirely different properties. This is the case with many other bodies, and every day almost is adding to their number.

Another difference between organic and inorganic compounds is the facility with which the former decompose as compared with the latter. The tendency amongst inorganic substances is to form the strongest and most permanent compounds. The rapidity with which vegetable and animal bodies decompose is known to all, and the study of such decompositions, and the substances resulting therefrom, has been a fruitful source of interest to the organic chemist. One of the simplest forms in which this decomposition takes place naturally, is by the absorption, on the part of the organic substance, of oxygen from the air. Although many of the secretions found in plants and animals will resist the action of oxygen when they are dry and only exposed at the usual tempera-

* ἴσος equal, and μέρος part.

ture, there are many things, such as the volatile oils, the fixed oils, and alcohol and ether, under certain circumstances, which absorb oxygen, and are resolved into two or more different compounds. The term *eremecausis*,* or decay, has been applied by Liebig to this process, when it takes place in the air. As an illustration of this process, and its results, we may refer to the action of oxygen upon alcohol. Alcohol is composed of

Carbon	4 parts
Hydrogen	6 ,,
Oxygen	4 ,,

Now when this substance, in the form of beer or wine, is exposed to the atmosphere, a certain quantity of the hydrogen unites with the oxygen to form water, and an extra dose of oxygen is taken up by the mixture; so that at last there is a substance formed consisting of

Carbon	4 parts
Hydrogen	3 ,,
Oxygen	3 ,,

This is acetic acid or vinegar. Although vinegar for commercial purposes was formerly obtained in this way, it is at present procured by the exposure of wood to a high temperature, when a series of changes occur, analogous to those above, and acetic acid is formed. The study of the action of oxygen on organic substances has thrown much light on the formation of coal. When sawdust is exposed to the action of the air, the lignine of which it is principally composed, and which consists of carbon, hydrogen, and oxygen, loses a certain quantity of hydrogen and oxygen in the form of water, as well as carbon in the form of carbonic acid, but eventually it is found that the carbon is the principal element which is left. An analogous change has gone on in the substance which we call coal, of which there are many varieties; but in all the quantity of carbon has increased at the expense of the other constituents.

The practical value of this fact is seen in the preservation of animal and vegetable substances. Food may be preserved for many years by carefully excluding the air in air-tight canisters. Animal and vegetable tissues may be preserved for a long time in substances, the vapour of which is readily acted on by oxygen, as oil of turpentine, alcohol, the volatile oils, and kreosote; substances which combine with the organic matters or absorb their water, as the salts of mercury, sugar, and common salt also prevent the rapid progress of eremecausis.

The next processes which occur in animal and vegetable substances are called *putrefaction* and *fermentation*. The changes undergone during these processes, are dependent on the same readiness of the elements of an organic body to undergo change as in eremecausis. The terms putrefaction and fermentation have been restricted by late chemists. Thus putrefaction is applied to substances which, containing nitrogen under the influence of water, and at a temperature sufficiently high, undergo spontaneous decom-

* From ἐρεμος desolate, and καυσις a burning,

position. Familiar instances of this process are seen in the decomposition of meat when it becomes putrid in hot weather; also of fruit and vegetable substances containing much water. The term *fermentation* is confined to the changes which are produced in bodies without nitrogen when exposed to a second agent, which always contains nitrogen, and which is called a *ferment*. One of the best illustrations of this is the formation of alcohol from sugar, in what is called the vinous fermentation. Familiar as this process has been to chemists, it is only within the last few years that it has been studied with attention; and the investigation has already led to important results. The changes which take place during the vinous fermentation are as follows: [grape sugar, which is composed of,

Carbon	24 parts
Hydrogen	28 ,,
Oxygen	28 ,,
	80

when exposed to the action of a ferment such as common yeast, is converted into three different compounds:

1. Alcohol, consisting of	Carbon .	16 parts
,, ,, ,, ,,	Hydrogen .	24 ,,
,, ,, ,, ,,	Oxygen .	8 ,,
2. Carbonic acid .	Carbon .	8 ,,
,, ,, ,, ,,	Oxygen .	16 ,,
3. Water . .	Hydrogen .	4 ,,
,, ,, ,, ,,	Oxygen .	4 ,,
		80

The sugar alone would never have undergone this change, but the yeast induced these changes.

With regard to the nature of this change, there are differences of opinion. Berzelius says this change takes place under the influence of a force of a peculiar kind, and which he calls *catalysis.** Instances of this force are not wanting amongst inorganic bodies. The peroxide of hydrogen, a substance composed of one part of hydrogen and two of oxygen, is immediately resolved into water (one part of hydrogen and one of oxygen) and oxygen, by the presence of an alkali, or any one of the metals.

When oxygen and hydrogen gases are brought into contact, they will unite and form water with much greater readiness if the metal platinum is present than under any other circumstances. These facts show, that there is a disposition on the part of certain bodies to undergo changes when placed in contact.

On the other hand there are some chemists, at the head of whom may be placed Mitscherlich of Berlin, who do not deny the existence of catalytic force as an ultimate fact, but believe that

* From κατα downwards, and λυω to unloose.

fermentation is not the immediate result of this force, but that it is brought about by the vital action of vegetable cells. They deny that the ferment is simply a quantity of nitrogenous matter in a state of decomposition, and affirm that it always consists of vegetable cells in a state of growth or development. Mitscherlich has recently described the nature of the vegetable cells found in fermenting beer. They are apparently of two kinds, and belong to the lowest forms of vegetable life. It is supposed that, through the agency of the vegetable cell, the sugar is decomposed, the carbonic acid gas formed, and alcohol and water developed. The ultimate action, however, in the vegetable cell is due to catalysis, or to that modification of this force which Liebig calls molecular motion. For it is found that every germinating vegetable cell consists first of a quantity of matter, such as starch and sugar without nitrogen, and secondly, a body containing nitrogen called *diastase*. This latter body acts as a ferment during germination, and the results are nearly the same; the sugar, starch, &c. being decomposed, and one of the results the formation and disengagement of carbonic acid gas.

The determination of this question is of some importance, and has practical bearings of great interest. Liebig has pointed out the analogy which exists between the action of ferments and those of organic cells, which exist in the matter of the small-pox and cow-pox pustules, and which on being introduced into the healthy system, are capable of producing the same changes as have taken place in the body from which they have been removed. There is so much analogy between these diseases, in which the poisonous matter is visible and tangible, and those in which a poisonous matter has not hitherto been demonstrated, that a large class has been formed for these diseases under the name *Zymotic*.* This term is now made use of in the registrar-general's report, and embraces all those diseases which prevail as epidemics. The question then naturally arises as to whether all these diseases can, in accordance with Mitscherlich's view, be referred to the presence of organic germs in a state of development or growth. However untenable such a view might be regarded a few years ago, the microscope, which has in so many instances aided the researches of the organic chemist, has presented a number of facts of remarkable interest. Thus, in the vegetable kingdom it has been shown, that the decay of apples, pears, and fruit generally, is attended with the almost universal presence of several forms of fungi. The disease in the potatoe has also been found to be accompanied with the growth of more than one species of fungus. Animals during the progress of disease frequently exhibit, both externally and internally, distinct indications of the existence of the lower forms of plants, and observation is increasing these instances every day. There is thus a mass of evidence, which, if it does not prove the dependence of vegetable fermentation, and various forms of disease, attended

* From Ζυμόω, I leaven, or ferment.

with decomposition in the vegetable and animal kingdoms, upon the presence of vegetable or organic germs, at least show their intimate connexion with these processes.

The most important objection to the theory of a growing organism producing disease, appears to rest on vegetable physiology. It is assumed by Mitscherlich and his followers, that the carbonic acid given off during germination, is the result of a process connected with the cell-life of the plant, whereas it appears that the chemical changes producing this phenomenon are independent of the life of the plant. The carbonic acid thus generated, is employed in part for the growth of the young plant, and the very circumstance which causes the growth of the embryo in the seed of plants, is the cause of the development of the organic germs in yeast. This would lead us then to the conclusion, that the development of vegetable cells in connexion with the decomposition of organic matter is accidental, and not necessary. Besides these questions which have been raised by the study of the change undergone by fermenting bodies, several distinct varieties of fermentation have been observed, with the results of which chemists are now well acquainted. Under different circumstances, the same bodies which undergo the vinous fermentation and produce alcohol, give rise to the formation of an acid called *lactic acid.* This fermentation takes place in milk, the sugar of which, in contact with the decomposing casein, is converted into this acid—hence its name *lactic.* This acid is sometimes produced by this process in the human system, and was at one time supposed to form one of its normal constituents, but it is now regarded as the product of disease. Recently a form of fermentation, called the *viscous*, has been investigated, which is also attended with the production of lactic acid and other compounds.

Another interesting illustration of catalysis or decomposition by contact is afforded by the formation of the bodies called *ethers.* The best known of these, sulphuric ether, is produced by the decomposition of alcohol, under the influence of sulphuric acid. Alcohol is composed of

Carbon	4 parts
Hydrogen	6 „
Oxygen	2 „

Now when sulphuric acid is added to this compound, the alcohol splits up into two new compounds, ether and water. Ether is composed of

Carbon	4 parts
Hydrogen	5 „
Oxygen	1 „

which is the composition of alcohol, excepting one part of hydrogen, and one part of oxygen, which form water. The study of the ethers has led chemists to the conclusion that the carbon and the hydrogen, in this instance, form a base which is called ethyle, and is united to oxygen gas, forming an oxide of ethyle. This has led to the discovery of a series of combinations of the organic elements, called

compound radicals, which are capable of uniting with oxygen, chlorine, and other bodies, in the same way as the metals forming oxides, chlorides, &c. Although the investigation of such a department of chemistry might be regarded as little likely to be followed with practical results, yet within the last two years it has been amongst these curious compounds that bodies have been found which have contributed largely, through their action upon the nervous system, to the amelioration of the pain suffered by man both during actual disease and the removal of diseased parts by surgical operations. Sulphuric ether was first found to possess the remarkable property of suspending the action of the sensationary nervous system, so as to render it insensible to pain. This discovery had not been long made before it was found that other members of this group of compounds possessed the same properties, and one especially, named chloroform, in a much more intense degree. Chloroform is a chloride of one of these compound radicals, called formyle. Formyle is composed of

Carbon	2 parts
Hydrogen	1 „

This body unites with chlorine as ethyle does with oxygen, and forms chloroform, or chloride of formyle. Such an application may well be the defence of the chemist, should any one, not in love with the beautiful laws that regulate the composition of organic bodies, ask him the *cui bono* of his inquiries. Such an apology may be urged by the natural philosopher, when the good of his inquiries into the recondite mysteries of electricity and magnetism is questioned, as he points with triumph to the electric telegraph as the wonder of the age in which we live.

Having thus far spoken of the general properties of the organic elements, and some of the results of their study, we will now point out some of the more prominent features of the special investigations in which the organic chemist has been employed. Few events in the history of chemistry have been attended with more important effects than the discovery of the substance called *protein*, by the great Dutch chemist Mulder, in 1838. Previous to this time chemists and physiologists had but a very obscure idea of the distinctions which existed between the chemical composition of animal and vegetable bodies. At one time it was thought that nitrogen was absent from all vegetable substances; hence it was common to speak of nitrogen, as distinguishing animal from vegetable bodies. But as vegetable chemistry progressed, it became more and more evident that plants contained, in many of their secretions, this substance. The active principles, which are called alkaloids, were, as they became rapidly discovered, found to possess nitrogen constantly present. Some of the volatile principles, as the oil of mustard, were also found to contain this element. Subsequently to this it was found that the so-called modifications of gluten emulsin and glutin contained large quantities of nitrogen; so that the absence of this ingredient was no longer indicative of the vegetable kingdom. As chemical research proceeded, it was discovered that the substances analogous to the glutin

of wheat, first discovered by Beccaria, an Italian chemist, in 1742, possessed a chemical composition not very dissimilar from some compounds found in animals. These vegetable bodies had various names given them, but are now classed under the terms vegetable fibrine, vegetable albumen, and vegetable casein, on account of their resemblance to the corresponding animal substances. It was in 1838 that Mulder announced, that, when animal or vegetable albumen, fibrine, or casein, is dissolved in a solution of caustic potash, and the solution heated for some time at 120°, on the addition of acetic acid a gelatinous precipitate falls down, which has the same composition and properties from whichever of these compounds it has been prepared. This substance Mulder regarded as the basis of all the other substances, and called it protein.* It is, according to Liebig, composed of

Carbon	48 parts
Hydrogen	36 „
Nitrogen	6 „
Oxygen	14 „ †

and Mulder has shown that two analyses of protein do not differ from one another more than analyses of fibrine, albumen, and casein do. Nor do analyses of protein differ more than the analyses of the other substances from protein itself; so that it is a perfectly sound inference that the composition of this substance expresses the composition of albumen, fibrine, and casein. Still they differ from protein and one another in their physical properties. Albumen is soluble in water, whilst fibrine and casein are not. It also coagulates under the influence of heat. Fibrine spontaneously coagulates from the fluids in which it is held in solution, which is not the case with casein, which is only precipitated from its solutions by dilute acids, and is dissolved again by excess. The three bodies thus differing from one another, and their basis protein, are found to present chemical differences, but not depending on the quantity of their organic elements, but on the quantity of their inorganic constituents. Whilst protein contains no inorganic matter, albumen, fibrine, and casein, each contains small but necessary quantities of mineral elements, such as sulphur, phosphorus, sodium, chlorine, and calcium. The varying quantities of these matters appear to constitute the difference in their physical qualities.

The inference that Mulder drew from these facts was of the utmost importance to future physiological and chemical inquiry. "It appears then," he says, "that animals derive their most essential Constituent principles immediately from the vegetable kingdom. Herbivorous animals, in this point of view, do not differ from carnivorous animals, since all are nourished by protein, and the same organic principle constitutes the chief part of their fabric. The nutritive power of bread, and other nutritive aliments containing protein, is thus

* From πρωτευω, I take the first place.

† These figures differ somewhat from those originally employed by Mulder, but are regarded by chemists as the most accurate. It is singular that Liebig, after having given the formula for this substance, should now deny its existence, and even all knowledge of the way in which it is prepared.

made clear. They furnish, without any change during digestion immediately, one of the most essential constituents of the animal body." This statement laid the foundations of the inquiries of Dumas and Boussingault, which were subsequently published in their work on 'Organic Nature;' and also of a work by Liebig, on 'Animal Chemistry,' which, on account of its having been first published in this country, is so well known to the English reader. All that has been published since has only served to confirm the correctness of Mulder's original view. Whatever difference of opinion may exist amongst chemists with regard to some of the main points, all seem to agree that the substances forming the muscles, nerves, vessels, and other parts of the animal body, and known by the names of fibrine and albumen (casein is found in the milk, and is called cheese when separated), are first elaborated in the vegetable kingdom, and from thence conveyed either directly or indirectly through animals, without change into the animal body.

The importance of protein having been thus established by the chemist, it was not long before the botanist was enabled to discover it by means of the microscope amongst the constituents of vegetable cells. In the same year, 1838, that Mulder announced his great discovery, Professor Schleiden, of Jena, gave the results of his researches on the formation of the cells in plants, and pointed out the universal existence of a nucleus or cytoblast,* from which each cell originated. This nucleus, according to Schleiden, is always composed of protein, so that it would appear that protein is the earliest formed of vegetable substances, and is the seat of that residual power which, in the absence of any intimate knowledge of its nature, is called *vitality*.

The discovery of the composition of protein led at once to clearer views of the nature of vegetable nutrition and the food of plants. It had long been known that carbonic acid gas and water were necessary to their nutrition, and the inquiry now originated as to the manner in which they obtained their nitrogen. The result of the investigation of chemists on this point is, that nitrogen is introduced with ammonia, a compound of hydrogen and nitrogen, constantly existing in small quantities in the air, and very abundantly given off from animal substances in a state of decomposition. The knowledge of this fact has led to some important practical suggestions with regard to the management of manures, as well as the application of proper substances to the soil, for the development of the nutritious secretions of plants.

Not only did this discovery lead to the more perfect investigation of the series of compounds in animals and plants, to which protein belonged, but to the remaining substances which were found so constantly associated with protein in plants, and taken into the system of animals with it in their food. These substances have been examined with great skill and care by Mulder. They are the cellular substance of plants, the amylaceous substances, dextrine, gum, sugar, pectin, fatty matters, chlorophyle, and some others

* From κυτος a cell, and βλαστος a bud.

of less importance. None of these substances contains nitrogen. They constitute by far the largest bulk of the secretions found in the vegetable kingdom. In the case of the cellular and amylaceous substances, the sugar, dextrine, and gum, the vegetable cell seems to have the power of converting one into the other. They have all the same quantity of carbon in their composition, and which is united with oxygen and hydrogen in varying quantities, but always in the proportions in which those substances form water. Of these carbonaceous or nonazotised secretions, the amylaceous substances, under the name of starch, the sugars, and the fatty matters, are taken into the system with protein as diet. When it was once clearly apprehended that the proteinaceous secretions of plants were alone appropriated by the animal body for its structure, it became evident that the nonazotised secretions were got rid of from the body. It was soon found that the carbonic acid gas, thrown off from the lungs during respiration, would account for the disappearance of the carbon, of which this class of substances were principally formed. Before the discovery of protein, Prout had distinguished between the saccharine and oleaginous matters, and the albuminous, which are taken as diet, and pointed out the probable source of the carbon in respiration. It was now evident that there was no difference between the ultimate end of amylaceous, saccharine, and oleaginous diets, and that they were all consumed in the processes in which carbonic acid is generated in the system. There can be little doubt that the same phenomena which attend the union of carbon and oxygen out of the system, the development of heat, would take place in the system, and hence the new chemical views confirmed the suspicions of the older physiologists with regard to the nature of animal heat, a function now almost demonstrated to depend on the combustion of the nonazotised foods. Not only have the inquiries of the chemist led to this important generalization, but even the mode in which the oxygen is conveyed into the system for combustion with the carbonaceous matter, seems to have been made out. During respiration oxygen is taken into the lungs, and carbonic acid is given out, but the latter is not the result of combustion going on in the lungs themselves. The oxygen is first absorbed by the blood, and carried to the heart, and then projected into the arteries, and carried to the capillaries, before it unites with the carbonaceous matters of the food which have been converted into blood. The carbonic acid gas is formed in the capillaries, and taken back by the veins to the heart, and thence projected into the lungs, where it gets rid of the carbonic acid gas. Now the blood itself as a fluid would not absorb oxygen; but Mulder has pointed out the fact, that the protein is susceptible of oxidation, and that the protein of the blood absorbs the oxygen in the lungs, and carries it to the capillaries in the form of an oxide of protein. It has also been found that the buffy coat of blood, so constantly present in inflammation, arises from the presence of oxide of protein.

In the course of these inquiries an interesting discussion arose between the French and German chemists, with regard to the origin of the fat found in the system of animals. Dumas and Boussingault

maintained that this substance, although belonging to the carbonaceous group of secretions was no exception to the law by which the proteinaceous matters were deposited in the body; that, in fact, it was taken directly from the vegetable and deposited in the animal system. On the other hand, Liebig, failing to discover sufficient oily matter in the food consumed by animals to account for their fat, maintained that this substance, which merely consists of drops of oil, surrounded by a delicate animal membrane, in most instances resulted from the changing in the system of starch and sugar into oil. It was difficult to prove this, however necessary the inference; but at last an experiment of Milne-Edwards set the matter at rest. He confined some bees in a glass vessel, and gave them only sugar to eat. In the course of a few days, although they had not decreased or increased in weight, they had consumed a quantity of the sugar, and had formed a large quantity of wax; thus proving that the bees must have formed the wax from the sugar. The power possessed by the animal system of converting sugar into fat seems perfectly analogous with this in the bee of converting sugar into wax.

These investigations of the chemist have not only laid broader and more securely the foundations of vegetable and animal physiology, but have opened up a view of the dependence of these two kingdoms one upon the other, as well as a polarity in the means of performing their varied functions, which still have a common end in view. This dependence and antagonism may be seen at a glance, by the following diagram, given in Dumas and Boussingault's work on 'Organic Nature,' before mentioned.

An Animal is an apparatus of Combustion.	A Vegetable is an apparatus of Reduction.
Burns Carbon	*Reduces* Carbon
Hydrogen	Hydrogen
Ammonium	Ammonium
Exhales Carbonic Acid	*Fixes* Carbonic Acid
Water	Water
Oxide of Ammonium	Oxide of Ammonium
Azote	Azote
Consumes Oxygen	*Produces* Oxygen
Protein	Protein
Fats	Fats
Starch	Starch
Sugar	Sugar
Gum	Gum
Produces Heat	*Absorbs* Heat
Electricity	*Abstracts* Electricity
Restores its elements to the air or earth	*Derives* its elements from the air or from the earth
Transforms organized matters into *mineral* matters	*Transforms mineral* matters into *organic* matters

Although it could scarcely be expected that inquiries in other directions should be attended with the important generalization of the discovery of protein, yet there is scarcely a subordinate department of research that has not yielded valuable results. It is scarcely

to be expected that such a field as this should be cultivated without differences of opinion, and in chemistry this is more often attended with benefit than many other departments of human inquiry, as in every case it leads to the great touchstone of chemical truth—experiment. There is scarcely a department of animal chemistry through which we might not illustrate this statement. As an instance, we may take the composition of the blood. Very accurate analyses of this fluid have now been made, not only in the varying conditions of health, but also in disease. These latter investigations seem to be of the greatest importance, as indicating the substances which ought to be supplied as medicines in some forms of disease. Amongst the ingredients of healthy blood is iron, which appears to exist in it in the state of an oxide. When this ingredient is deficient in the human system, the individual becomes pale, and all the functions of life are performed languidly; and it is now known that iron, in some form or another, is the most powerful medicine that can be given in these cases. The importance of iron in the blood has led Liebig to give a different explanation of the phenomena of respiration from Mulder. He believes that iron, not protein, is the oxygen-carrier. That the blood, as it presents itself in the lungs, contains carbonate of the protoxide of iron (a compound containing one proportion of oxygen, and one of iron), and that, coming in contact with the oxygen in the air, the iron unites with another dose of oxygen, becomes converted into the peroxide, and the carbonic acid gas is allowed to escape. The peroxide of iron carries the oxygen to the capillaries, there yields up its extra dose of oxygen, which, uniting with carbon, becomes converted into carbonic acid, which substance immediately unites with the protoxide of iron, and again the same round of change takes place. We do not give our opinion on this theory, but offer it as an example of the result of chemical analysis, and the higher physiological investigations to which it leads.

As instances of investigations which are likely to be followed with important results in the treatment of disease, we may mention the discovery in the blood of many of those constituents which ought to be eliminated or thrown off from the system by the excretory organs, such as urea in disease of the kidneys, bile in obstruction of the liver, and lithic acid in gout.

Recently the contents of the stomach, the gastric juice, the chyme, the chyle, and the remains of the food after digestion, have been chemically examined, and important conclusions have been arrived at. Amongst the products elaborated by the glandular system of the human and animal body generally, there are few, if any, of more importance than the bile. This secretion has been laboriously examined by the organic chemist, and has presented a problem, which he has not yet been fully able to solve. One great point, however, he has long been acquainted with, and that is, that the bile contains a large proportion of carbon. From this fact it was supposed that the liver was the organ by which carbon is thrown off from the system, but we have previously seen that this is one of the functions of the lungs. Struck with this fact, Liebig has ex-

amined the rejected contents of the intestines, and has found but comparatively small quantities of carbon in these matters. He, therefore, concludes that the bile is but the form which the carbonaceous secretions assume before they are taken up into the system and used for combustion. This theory cannot at present be said to be demonstrated, but it cannot fail to induce further examination and elicit the real truth.

Another organ, the secretions of which have been examined, and the result of which have been followed by the most important practical applications in medicine is the kidney. It is by means of the kidney that the proteinaceous tissues which have been used in the system, and carried into the blood, are got rid of. As the distinguishing feature of these tissues is nitrogen, so we should expect to find this constituent in the secretions from the kidney. And this is the case, the substance which is characteristic of the urine is urea, and this is composed of

Carbon	2 parts
Hydrogen	4 „
Nitrogen	2 „
Oxygen	2 „

A knowledge of the composition of urea at once explains the value of urine as a manure. Besides urea, the urine contains many other compound bodies, a knowledge of the composition of which, in health and disease, has led not only to a more rational treatment of the diseases of the urinary system, but also modified the views of the pathologist, with regard to general disturbances of the system.

Not only has modern chemistry investigated the composition of the various products of animal and vegetable life, but also the influence of those mysterious agents, electricity, heat, and light, upon the chemical changes that are going on in organic bodies. With regard to *electrical phenomena*, including galvanism and magnetism, it may be said that they are rather the result of chemical changes going on in animals and plants than their cause. Much has been recently written on electricity as the cause of vegetable and animal life, and foolish applications of this agent have been recommended for the purpose of increasing growth in plants, and removing disease in animals; but at present it may be safely stated that none of these applications are warranted by a sound inductive science.

The influence of *heat* on chemical change is well known. It is only when certain elements acquire a particular temperature that they will unite; and what is true of this agent, in relation to inorganic bodies, is more especially applicable to the organic elements. The action of heat upon plants and animals, as producing various periodic phenomena, is obtaining the attention of naturalists and chemists.

As far as the vegetable kingdom is concerned, *light* seems a more potent chemical agent than heat. The vegetable cell will not decompose the carbonic acid, with which it is supplied, except under the influence of light. The various coloured rays of light have been

found to act differently on vegetation; one set assisting the chemical changes of the cell of the leaf; another, the changes that go on during germination; whilst another set are the means of imparting heat. This subject has been pursued with great diligence by Hunt, in this country, and Draper in America, and the result has been some important practical applications in the growth of plants under glass, variously coloured. Light also affects the animal body, and a certain quantity appears to be essential to its health and integrity. The real nature of its influence on animals is, however, but imperfectly understood.

From this hasty sketch some idea may be formed of the important objects and the large field that organic chemistry contemplates. Up to the present time it can scarcely be said to have done any thing more than approach the vast domain which it is destined to conquer, and render subservient to the wants, the happiness, and progress of man. It is only through the toilsome road of special investigation that man can expect to arrive at that end of all his labours, where the universe of parts will appear but as one great whole, connected together by a single thought.

VI.—RELATIVE PROGRESS OF THE POPULATION AND OF INDUSTRIAL WEALTH.

THE census which is taken once in ten years in this country affords the means of determining the rate of increase in the population; which increase, unless there be some exceptional disturbing cause, is found to follow a pretty uniform rate. Such enumerations, viewed in themselves, are curious and often interesting, but their value is not fully felt until they are brought into juxta-position with the productive powers of the country in respect to material wealth. The question may be put in this form,—Do the results of industry, the necessaries and conveniences of life, increase in a greater or less ratio than the population? The speculations as to whether the distribution of this acquired wealth is the best possible? whether this or that commercial theory is most conducive to national contentment?—these inquiries stand out by themselves as a distinct branch of political science, and will not engage our attention here. The object of the present article is to collect and arrange a few facts, without reference to any theories.

According to calculations made very carefully by the late Mr. Rickman, founded partly on the censuses of 1801, 1811, 1821, 1831, and partly from examination of the parish registers, the population of England and Wales was about as follows at various bygone periods:—

1570.....4,038,879	1670.....5,773,646
1600.....4,811,718	1700.....6,045,008
1630.....5,601,517	1750.....6,517,035

It was not till 1801 that a regular census was taken. There have been five such during the present century, each one exceeding in accuracy and completeness those which preceded it. The results fo England and Wales were as follow:—

1801..... 8,872,980	1831.....13,897,187
1811.....10,150,615	1841.....15,911,725
1821.....11,987,875	

With respect to Scotland, no very precise estimate has been made for periods before the present century. The five censuses give the following results:—

1801.....1,599,068	1831.....2,365,114
1811.....1,805,688	1841.....2,628,957
1821.....2,093,456	

Ireland was not brought within the census operations till 1821. The following is the result:—

1821	6,801,827
1831	7,767,401
1841	8,175,124

The registrar-general of births, marriages, and deaths, has calculated each year the probable increase of population, arising from the excess of births over deaths, and making allowance for emigration. Taking his estimate for 1846, we may give the following four entries, as presenting the total population of England, Wales, Scotland, Ireland, and the small islands, at four periods:—

1821.....20,963,666	1841.....26,839,885
1831.....24,133,412	1846.....28,487,000

According to this estimate, the population at the end of 1848 must approach closely to thirty millions. As an example of this mode of estimating not only the present but future populations, we give the registrar-general's estimate for the metropolis, founded on the census of 1841, and on the subsequent births, deaths, immigrations, and emigrations:—

1841.....1,950,526	1848.....2,172,386
1844.....2,042,690	1850.....2,240,289
1846.....2,106,540	

Confining our attention to the rate of increase in the population of the country generally, it is found that, taking one decennial period with another, and one part of the kingdom with another, this rate is about fourteen per cent. in ten years; or to every one hundred persons in a given year there are, ten years afterwards, about one hundred and fourteen. In the interval 1821-1831, the rate of increase was unusually large; but we have made it take part in a general average for half a century.

The inquiry next arises, how does this ratio of fourteen per cent. in ten years correspond with the rate of increase in the production and consumption of commodities?

As there are no recognised means of determining the quantities of commodities produced or consumed, unless they come under the

operation of the Excise or Customs, we cannot tell exa ly what are the quantities of bread, meat, butter, cheese, &c. consumed. It is known, however, that the butcher's meat consumed in Scotland has vastly increased during the present century; Ireland probably maintains about its former average per head; while it is probable that the consumption per head in England has increased rather than diminished. Mr. M'Culloch estimates that every individual in the metropolis, taking one with another, eats about 122lbs. of butcher's meat annually, besides bacon, ham, and poultry. His estimates for some other towns are—105lbs. in Manchester, Brussels 89lbs., and Paris 86lbs. The meat eaten in England comes from three sources—home reared, imported from Ireland, and imported from the Continent. Foreign cattle and sheep were not allowed to be imported for food till 1842, so that we cannot compare this item with earlier periods. Irish cattle imported into Great Britain increased from 32,000 in 1801 to 180,000 in 1844, and 193,000 in 1846-7. The difficulty of instituting comparisons, in respect to corn and bread, is as great as with meat; but it is beyond all question that the *quality* of the bread eaten in this country has vastly improved since the last century, and that the working classes of England eat better bread than the similar classes in almost every other country. The foreign corn consumed in England averaged about three-quarters of a peck per annum for each individual, from 1801 to 1835; since then it has increased. With respect to butter, the imports of foreign butter more than doubled between 1831 and 1846; and we have no reasons for thinking that less butter is made in England than before. The consumption of butter in the metropolis is estimated at about 16 lbs. per year per head. So far as we are able to compare the habits of the population at different periods, it seems probable that bacon and cheese are not eaten more largely, per head, than at the beginning of the century.

But when we come to those articles of daily consumption which are procured mainly or wholly from abroad, and which pay duty on importation,—such as tea, coffee, cocoa, sugar, tobacco, tallow, &c., or which pay an Excise duty at home, such as spirits, malt, hops, soap, &c.—we find that the quantities consumed increase much more rapidly than the increase of population, thereby yielding a larger portion to each average individual. The quantity of some of these commodities entered for home consumption in several different years may be arranged as follows:—

	1801	1811	1821	1831	1841	1846	
Tea	23½	24½	23	30	36¾	47	Millions of lbs.
Sugar	310	400	350	420	450	560	
Coffee	¾	6⅓	7⅓	21¾	28⅓	36¾	
Tobacco	17	21¼	15½	19½	22¼	27	
Cocoa	—	—	—	¾	2	3	
Tallow and Palm Oil	—	—	—	123	149	179	

The sugar consumed in this country is now twenty times as large in quantity as in the year 1700; the coffee consumed is more than fifty times as much as in 1801; the cocoa is almost

wholly a modern beverage; and it is evident, at a glance, that, taking the above articles in a group, the consumption has increased more rapidly than the population. In respect to tallow, for making soap and candles, it is proper to include palm-oil in that item, on account of the largely increased use of this substance in candle-making. Though called an oil, it is in our climate congealed to a solid.

Then, taking some other articles which bear upon the daily food of the mass of the people, we find that the British and Irish spirits, which paid duty in 1821, was 9,750,000 gallons; in 1831, 22,000,000; in 1841, 20,500,000; and in 1846, 24,000,000 gallons; that the malt which paid Excise duty in 1801, was 19,750,000 bushels; 29,750,000 in 1811; 29,500,000 in 1821; 39,500,000 in 1831; 36,250,000 in 1841; and 42,000,000 in 1846; that the salt, which is now so abundantly used amongst us, is also more largely exported than at any former period; that since the establishment of railways, fish and poultry have been more abundant, and more reasonable, in our busy towns than before; that since the alterations in the tariffs, foreign fruits and vegetables, which were before expensive, have become greatly cheapened, without (so far as is known) any diminution of home-grown produce. With regard to wine and beer, the heaviness of the Customs duty on the one, and of the Excise duty on the other (or its chief ingredient, malt), have prevented the consumption of those articles from increasing in a ratio equal to that of many other commodities,—that of ardent spirits, unfortunately, has increased instead. It is a striking proof of the effect of high duties, that the quantity of foreign wine consumed in England was *less* in 1846 than in 1801, notwithstanding the increase of population, the quantities being 6,750,000 against 7,000,000 gallons.

The glass manufacture had been so pressed down until lately by heavy duties, that the recent sudden increase in the quantity made is hardly a fair test of the demand for it. We will, however, take three exciseable articles of large consumption—soap, bricks, and paper. The soap charged with Excise duty was—in 1801, 55,500,000 lbs.; in 1811, 80,000,000 lbs.; in 1821, 97,000,000 lbs.; in 1831, 127,500,000 lbs.; in 1841, 170,500,000 lbs.; and in 1846, 186,000,000 lbs. The bricks charged with duty have risen from about 1,000 millions in 1831, to more than 2,000 millions in 1846. The paper which paid duty in 1831 was 61,000,000 lbs.; in 1841, 76,500,000 lbs.; and in 1846, 127,500,000 lbs.

If the object here were to come to detailed accuracy, it would be necessary to distinguish how much exciseable produce is exported before we could know how much is retained for home consumption; but sufficient is known to warrant us in stating that, in respect to nearly all the commodities hitherto named, the increase of home consumption has shot far ahead of the increase of population.

If we next glance at those foreign commodities which give employment and wages to British workmen—such as cotton, wool, silk, flax, hemp, hides, &c.—we shall find results not less interesting than those relating more particularly to food. The following were

the quantities of these commodities imported for home consumption in the years indicated; and as these, the raw materials of manufactures, are imported for the purpose of being wrought up into finished goods, rather than for re-exportation in the raw state, they illustrate the vast increase in these departments of British industry, even after making all requisite allowance for such re-exports.

	1801	1811	1821	1831	1841	1846	
Cotton	56	92	137	273	437	428	Millions of lbs.
Wool	—	—	10	30	53	65	
Silk	1	1¼	2¼	4¼	5	5¾	
Flax	—	—	55	104	151	128	
Hemp.....	—	—	—	56½	73	99	
Hides	—	—	—	26	51	60	

The year 1846 happened to be one of extraordinary depression in respect to cotton and flax; for in the previous year, 1845, the imports of cotton were no less than 722,000,000 lbs., and those of flax, 159,000,000 lbs. Silk, wool, hemp, and hides, in like manner, were more largely imported in 1845 than in 1846. As 1845 was, however, a year of overstrained speculation, and as, on the other hand, 1847 was a year of much commercial disaster, it will be better for our object to take the more sober year, 1846, as a type of recent progress.

In respect to the *official* value of imports and exports, it indicates a value or price put upon commodities long ago, when prices were very different from what they are now. It is therefore useful only as indicating the relative *quantities* imported or exported year after year. But the *declared* or *real* values give the actual market prices year after year, so as to indicate the money value of the goods. With this explanation, we will now compare the official and declared values of British and Irish produce and manufactures exported in certain years:—

	Official Value.	Declared Value.
	£	£
1801	24,500,000	 39,750,000
1811	21,750,000	 30,750,000
1821	40,250,000	 35,750,000
1831	60,000,000	 36,500,000
1841 101,750,000		 51,250,000
1846 132,250,000		 57,750,000

The declared or real value exceeded the official down to 1819, thereby indicating high prices; but from 1819 to 1846 the official has exceeded the declared value, and this excess becomes more apparent every year, as prices get lower. This difference is strikingly shown by the fact that, while the money value of the above kinds of exports, in 1846, was not quite twice as much as in 1811, the *quantity* exported, as indicated by the official value, was more than six times as great. Either estimate can be taken, according to the point which it is wished to illustrate. The relatively large exports of 1801, as compared with those of 1811, must be

viewed in connexion with the fact, that peace was declared in the former year, while in the latter year we were at war, both politically and commercially, with Napoleon.

The following exhibits the *official* value of the imports into the United Kingdom, and the gross amount of Customs duties on them in certain years:—

	Imports.	Customs Duties.
	£	£
1811	25,500,000	—
1821	29,750,000	23,500,000
1831	48,250,000	22,000,000
1841	62,750,000	23,750,000
1846	76,000,000	22,500,000

On account of the gradual reduction of duties the receipt of customs has remained nearly stationary, while the quantity of the imports has trebled in thirty-five years.

The enterprise of our ship-owners and ship-builders has not been less noteworthy than that of the manufacturers. The merchant ships actually belonging to the British empire at four periods were:—

	Ships.	Tons.	Crews.
1821	25,036	2,560,203	169,179
1831	24,242	2,581,964	158,422
1841	30,052	3,512,480	210,198
1846	32,499	3,817,112	229,276

Although the ships increased only 28 per cent. from 1821 to 1846, the tonnage increased 50 per cent. The progress of steam navigation has been most extraordinary. In the year 1814 there was one steam vessel belonging to the United Kingdom; by 1821, the number had increased to 59; by 1826, to 230; by 1831, to 324; by 1836, to 561; by 1842, to 831; and by 1846, to 963. Moreover, the steam vessels have become, on an average, larger year by year. The average gave 106 tons per vessel in 1826, and 136 tons in 1846.

The following refers—not to the vessels and crews *belonging* to the British empire—but to those (whether British or foreign) which entered British ports in actual trade:—

	Ships.	Tons.	Crews.
1821	14,066	1,895,530	123,528
1831	20,573	3,241,927	178,782
1841	28,052	4,652,376	252,330
1846	33,821	6,101,015	322,751

From this we learn that the ships employed in conducting commerce between foreign countries and British ports increased to more than double in twenty-five years, the crews to nearly treble, and the tonnage to more than treble. The *coasting* trade between different ports of the United Kingdom is not included in the above. It employs an amount of shipping tonnage, which has increased from 9,000,000 to 13,000,000 tons in about twelve years.

These various elements relate to home-grown and foreign-grown food, to the materials of clothing, to the raw materials for manufactures, to our aggregate commerce with other countries, to the ships and the men which find profitable employment in that commerce,—all of which belong more or less closely to the *production* of wealth, and nearly all of which have increased more rapidly than our population; in some instances to an enormous extent. But we shall find, also, that in the consumption or spending of the wealth thus created, many things are observable which mark a singularly rapid advance towards a command of useful and socially advantageous arrangements.

Take the case of Fire Insurance. The value of the property insured against fire in the United Kingdom was, in 1831, rather over 526,000,000*l.*; by 1841, it had increased to 682,000,000*l.*, being an increase of nearly 30 per cent. in ten years. It would be difficult, perhaps impossible, to estimate rightly the amount of contingent or deferred wealth (if we may so express it) provided by the invaluable system of Life Insurance; but it must be enormous, and the social benefit beyond all calculation. Another kind of provident accumulative agency, however, is more readily to be stated in figures; viz., that of Savings' Banks. This system began in 1817. From a very humble origin it spread to an extent which has exceeded all anticipations. By the year 1831, there were 429,503 depositors, whose deposits amounted to 13,719,495*l.*; by 1841, there were 841,204 depositors, whose deposits reached the sum of 24,474,689*l.*; and by 1846, there were 1,108,546 depositors, whose deposits amounted to 33,694,642*l.*, or about 30*l.* from each depositor. The sum would be greatly increased, were it not for the facility afforded in Scotland by the Joint Stock Banks. Such banks take in deposits, and allow interest on very small sums lodged with them; so that the Savings' Bank system is not largely adopted in Scotland. It is supposed that the amount deposited in Scotch banks is not far short of 30,000,000*l.*, and that about one-half of the depositors are persons in the same ranks of life as those who deposit in Savings' Banks elsewhere.

The annual value of property, as assessed to the property tax in 1815, was about 52,000,000*l.*; in 1842, it was returned at 82,250,000*l.*, and tithes at about 1,670,000*l.* The annual profits of trade in England and Wales were assessed in 1815 at about 35,000,000*l.*; in 1844, they were estimated at 60,000,000*l.* The amount of capital upon which legacy duty had been paid in Great Britain between 1797 and 1831 was 742,000,000*l.*; this sum had increased to 1,163,000,000*l.* by the year 1841; so that in ten years (1832—1841) legacy duty was paid upon an additional amount of capital, considerably more than one-half of the aggregate amount upon which the duty had been paid in the thirty-four preceding years; or, put in another form, the property bequeathed by legacy averaged 22,000,000*l.* per annum from 1791 to 1831, and 42,250,000*l.* per annum from 1832 to 1841. The produce of the stamp duties on probates of wills and letters of administration, in the United Kingdom, was 919,000*l.* in 1831; 1,015,000*l.* in

1841; and 1,055,000*l.* in 1846. These are points which in various ways test the amount of property possessed or accumulated in the country.

If we look at the capital invested within a given number of years, in the shape of *shares*, and which in almost every case represents spare or accumulated capital, we arrive at some astonishing results. We may leave untouched the mining speculations of 1825, and the Joint Stock bubbles of 1836; for those were remarkable rather for the extravagant prices given for the scrip or deposits on shares, than for the money actually sunk in permanent works. In respect to the 2,700 miles of canal now at work in the United Kingdom, they belong rather to the past generation than to the present; nearly 2,000 miles having been projected and laid out before the commencement of the present century: the forty years from 1770 to 1810 were the busy years for canals. In respect to turnpike roads, too, the advance was more notable in the last generation than it has been within the last twenty years, owing to the spread of railways. The turnpike roads and paved streets of England and Wales amount to about 20,000 miles, and the cross-roads to nearly 100,000 miles; these together, though increasing yearly do not increase in a large ratio. But when we come to railways, we find ample reason for the comparative stagnation of roads and canals. The first passenger railway (the Liverpool and Manchester) was opened for traffic in 1830; it was so successful that more than one hundred Acts were obtained for new lines between that year and 1840, and more than five hundred in the next six years, 1841—1846. About 1100 miles were finished and in operation in 1841; about 2650 miles in 1846; and there will probably be about 4400 miles open at the end of 1848. The capital expended on these works, which was laid out cautiously twenty years ago, increased at an astonishing rate. The completed railways had cost 70,000,000*l.* by November, 1845; and by the commencement of 1848, the expenditure had increased to 170,000,000*l.*, of which 130,000,000*l.* had been raised by shares, and 40,000,000*l.* by loans.

For the total mileage sanctioned, the total capital involved, and the consequences (in some respects disastrous) resulting from the unparalleled activity in one kind of enterprise, we refer to a later part of this volume; but the reader cannot lose sight of the fact that the mere *possibility* of investing such astounding sums in railways, shows in a striking degree the accumulated power and wealth of the country. And it is also plain that the power of transit from place to place must have increased enormously. Time has a money value in trade; and although it would be impossible to estimate it correctly, it is clear that the increased money value of services generally must have been increased by the saving of time by railways. All sorts of commodities change hands more quickly than they did before the railway system commenced; shopkeepers need not have such a large stock as dead weight; and men get over a task in a few days which used to occupy nearly as many weeks. It has become a matter to laugh at, when we hear of the Edinburgh and Glasgow coach which took a week to go and return; of the

Edinburgh and London coach which took a fortnight on the road; of the Oxford coach two days on the road, "sleeping" at High Wycombe; of Roderick Random's "long waggon," which was a fortnight from York to London; and even when we come to the dashing mails at ten miles an hour—the finest specimens of stage-coach travelling, perhaps, in any country — we can hardly realize the idea of such having been *quick* travelling. From London to Exeter in four and a half hours, to Edinburgh in twelve hours, to Dublin in thirteen hours: these have spoiled us for past doings. How many persons used to travel by road we have but imperfect means of guessing; but we know that in the half year ending June 1848, there were more than twenty-six million railway travellers in the United Kingdom, or about a million a week. As the autumnal half-year is always more distinguished by travelling than the spring half-year, and as new lines are being opened every month, we may safely assume thirty-two or thirty-three millions for the second half of 1848. This will give (say) fifty-eight millions, just about double of the population of the United Kingdom at the present time; and as it is found that each journey made by each traveller averages about fourteen miles in length, we come to this result—that if we suppose every man, woman, and child in the three kingdoms to make two railway journeys in a year, each of fourteen miles in length, it would about equal the total amount of railway travelling at the present time. Twenty-eight miles a year for *every* individual, is indeed a remarkable average, to which the stage-coach days could present nothing like a parallel. It was at one time feared that horses and horse owners would suffer wofully from the increase of railways; but whoever has noticed the increase of omnibuses, cabs, and similar vehicles, will see a full compensation for the "long stages" and post chaises of former days. Without going into details, it is evident to any one who has paid the slightest attention to these matters, that the amount of capital invested in bridges, docks, markets, lighting and paving and improving towns, and other objects tending to the comfort and convenience of the people, has increased much more rapidly than the population; but the value of the improvements can hardly be tested unless two distant periods be taken for comparison.

The alteration in the mode of conducting the Post-office, at the time of the adoption of the Penny Postage, led to an immense increase of correspondence throughout the country; and even that increase has since gone on yearly. The letters delivered in one week of 1839, in the United Kingdom, were about one and a half millions; by the year 1848, the number in the corresponding week had risen to six and a half millions. The use of the Post-office in respect to money orders is still more remarkable. The money sent through the post in three months of 1839 was 90,000*l.*; in three months of 1848 it had attained the extraordinary amount of 3,500,000*l*!

We may sum up these details, then, by repeating what has been before said, that in nearly all the tangible evidences of a nation's

wealth enumerated in this paper, the rate of increase has been greater than that in the population within the same number of years. The fact is a useful one to bear in mind, provided we do not draw hasty inferences from it—inferences which may require other data to justify them. As the object has been to present a few *relative* quantities, minute accuracy has not been aimed at; and moreover the annual public accounts, as presented in the various Parliamentary Papers, are in some cases made up to December 31st, in others to January 5th, and in others to April 5th; so that it is not always easy to compare them together. The reader will, therefore, consider the quantities here given as round numbers, approaching to correctness sufficiently near for the purposes of a rough comparison.

VII.—ON THE VARIOLA OVIS.

PESTILENTIAL epidemic, or contagious diseases, have made havoc at various epochs among the domestic animals which man justly regards as the most valuable of his possessions,—horses, sheep, horned cattle, and dogs, have been swept away by thousands,—and in his turn man also has been involved in the withering blast of desolation.

To attempt even a cursory history of the malignant epidemics or murrains of which ancient records give us notice, and which in more modern days have from time to time desolated in different portions of Europe the homesteads and pasture grounds of the agriculturist, would be to involve ourselves in a labour of length and difficulty; besides which, we should wander too far from our present subject.

An industrious and sagacious writer thus speaks of the epidemic scourges of the fold, as far as our own island is concerned:—"The earliest record in British history of any prevalent fatal disease among sheep is dated 1041, when it is said that the greater part of both sheep and cattle were destroyed. Another still more destructive epidemic occurred in 1125. In 1315 an epidemic prevailed that was equally destructive to the human being, and to every other domesticated animal; and another of similar character followed in 1665. In general, however, the sheep were exempt or suffered slightly. In the years 1834 and 1835 an epidemic prevailed among the sheep in the colony of New South Wales. Some of the settlers lost more than half their stock, and the mortality was fearful through a considerable portion of the colony."—This disease, however, was not *variola*.

As to what the nature of the epidemics were, which from time to time have appeared in our island (and of which we have only meagre records), who can speak with precision? It is in modern days only that the veterinary surgeon has assumed that importance, that standing, which is his due; and it is from his pen alone that a truthful record of the characters of desolating epidemics among our domestic animals is to be expected. *Old* England had no professed veterinary surgeons; indeed, the healing art altogether was at a low ebb; and although Government, or rather feudal monarchs, who derived a

revenu from the duties on wool, must naturally have been interested in the state of the flocks throughout the kingdom, still, immersed as they were generally in the affairs of civil or foreign wars, much attention could not have been paid either by themselves or their councillors to the nature of those maladies which, more frequently than records tell, have desolated the flocks of "Merrie England."—From the papers or records kept by the religious houses better information might be looked for; but then, where are these records? Did *variola ovis* spread its ravages in the olden time?—Who can tell? "Old times have changed;" a watchful and considerate Government, provident for the future, allows not the incursion of sweeping epidemics, or infectious diseases, among our domestic animals, to devastate the land without accurate scrutiny; and to the aid of Government come well-educated veterinary surgeons, bringing to the task sagacity and experience. At the present juncture, both Government and veterinary surgeons have had their attention called to a disease among sheep, alarming in its nature, and rapid in its progress.

Variola ovis presents itself (as does *variola* in the human subject) in two forms.—1. *Simple.*—2. *Confluent.*

As to the origin or rather appearance of the disease in England, a few preparatory words seem necessary. Ovine *variola* has been introduced into our country in consequence of the importation of sheep from the Continent, and that, since the alteration of the tariff. It is a dangerous thing to admit the cattle of one country into another without accurate inspection, for sooner or later some contagious malady will be brought in along with them. Variola has been long known in France, and attention was particularly called to it in 1747, by a French doctor, Joubert. It does not appear always in the same places, and sometimes a district visited by it will remain free for an interval of ten or twelve years, when it will rage afresh. In this manner have the flocks of France been thinned from time to time, even in the districts opposite the English coast; yet, according to Mr. Youatt, it had not, when he wrote (1837), reached our shores, and consequently the description which he gives of the disease is entirely based on the authority of the French writers, Vatel, Arboval, Gasparn, Tessier, and others. Yet Mr. Youatt's account is very able; and one passage, in which he discriminates between the human small-pox and that affecting the sheep, strikes us as being of great importance. "Medical men," he says, "were much struck with the resemblance between this disease and the small-pox of the human being, and they believed them to be identical. Every shepherd of course adopted this idea, and the *clavelée* of the sheep was supposed to be the small-pox of the human subject, modified by certain differences of structure and function. This, however, was very erroneous. There was an evident difference in the pustule; that of small-pox was developed in the texture of the skin, and surrounded by a rose-coloured areola; that of the *clavelée* was evidently more deep seated; it reached to the subcutaneous cellular tissue, and it was surrounded by an areola of a far deeper colour. The virus of small-pox was usually contained in a simple capsule, which elevated the scarf-skin; the virus of the sheep-pox seemed to be more diffused through the

cutaneous and subcutaneous tissue, and there was abundantly more swelling and inflammation. The matter of small-pox was first limpid; it then became turbid, puriform, and at length assumed the form of white, or yellow, or thick *pus*, which became concrete, and a scab was formed, which became at first yellow, then brown, and then black, and when it fell off left an impression or depression more or less distinct on the surface of the skin. The pustules of the sheep-pox, before there was any appearance of *pus*, degenerated into scabs, or formed a hard thick crust, under which the *pus* accumulated, and when that scab fell off there was a sore left behind, or sometimes a deep ulcer. There were other particulars of disagreement sufficient to prove that they were not identical diseases." It is evident that Mr. Youatt, with the French writers generally, regards *variola ovis*, or *la clavelée*, as a disease peculiar to the sheep, and as distinct both from cow-pox and small-pox.

Mr. Simonds, whose admirable work ought to be in the hands of every farmer, thus details his first acquaintance practically with the disease in question. "On September 4th, 1847, I was consulted by Mr. Statham, farmer of Datchet, near Windsor, with reference to a cutaneous disease of a destructive nature that had broken out among his sheep. I was informed that he had purchased fifty-six sheep of the Spanish breed in Smithfield market on the 26th of July. Before putting them with others he placed them in a separate pasture, with a view to ascertain if they were free from *eczema epizootica*, which so frequently makes it appearance after sheep have been driven from one place to another. No symptom of this disease having shown itself at the termination of a week, the sheep were allowed to mingle with a flock of about two hundred *downs*, which at that time appeared to be in perfect health.

"A few days subsequently, while going over his grounds, Mr. Statham saw one of the Spanish sheep standing apart from the others; and on examining it he found the surface of its body covered with an eruption, which he thought resulted only from stings of wasps or hornets, and on that account the animal was not removed.

"On the following day several more of the merinos were found to be similarly affected; and from this time the disorder continued to spread, and many of the sheep died. It was about a fortnight after the two flocks were pastured together that the malady *first* showed itself in the *downs*, and these seemed to suffer more from it than the *merinos*. The flocks were now separated; still the disease continued to advance, and daily losses were sustained.

"Before my arrival at Datchet the sheep had been judiciously divided by Mr. Statham into three lots, which were placed in fields situated at a distance from each other, so as to prevent the disease being communicated by contact, or even by infection. The first lot consisted of *downs*, supposed to be healthy; the second of merinos recovering from the malady; and the third of merinos and downs still labouring under it." These merinos were brought by the ship 'Trident' from Tonningen, on the coast of Denmark.

Some parts of the Continent are far more free from *variola ovis* than others; hence it often happens that a ship, receiving sheep driven

to the port from different quarters, will take in a sound lot, delivered by one salesman, and an infected lot sold off by another, of course the former are in jeopardy. Can no remedy be devised for this indiscriminate reception of foreign sheep on board? In the Hamburgh market, as we learn, a separate place is assigned to sheep which show any signs of contamination, or which are known to have been brought from a district in which the disease is prevalent. Nevertheless, we have reason to suppose that no selection is made of those which are honestly fitted for exportation, but that good and bad are alike put on board, the latter spreading the malady far and wide on their arrival in our island.

To such an extent, within the last year or eighteen months, has this disease spread, and so numerous have been the arrivals of flocks of infected sheep from abroad, that the attention of Government has been awakened to the danger, and two important documents relative to this disease, containing the results of an anxious inquiry, have been printed under the orders of the House of Commons, and in them much valuable matter is to be found. These papers ('Disease among Sheep,' 612 and 689), to be procured at the most trifling cost, ought to be in the hands of every proprietor of flocks. But before we comment upon them, we must first enter into a few details respecting *Variola ovis*.

1. *Mild or benignant, or distinct Variola.*

Variola may be communicated both by *exposure* and by *inoculation*. When received into the system by exposure, it may remain latent for a considerable time,—and indeed, after inoculation, temperature and constitution have much to do with hastening or retarding its outbreak. This period, which elapses between the reception of the morbific influence, whether by exposure or inoculation, to the time of the appearance of the disease, is termed the *period of incubation*. On an average, after ten or fourteen days, the symptoms of the dreaded malady make their appearance. The affected sheep separates from its companions; creeps into some obscure corner of the field, and with a look of deep dejection, hangs down its head, while its flaccid ears fall loosely on each side its face. Quick and hurried breathing announces fever; tears drop from the swollen eyelids, and mucus begins to be discharged from the nose; the vessels of the conjunctiva are preternaturally injected; and the arterial action is excited, the pulse being sharp, and about ninety-five per minute. We are now in the *eruptive stage*. On the inner side of the arms and thighs, and on the naked parts adjacent, as well as on the lips and cheeks *papulæ* of a blushing red appear imbedded in the dermis or true skin. These papulæ, which at first appear small, with a ring of inflammation round them, increase each to the size of a shilling, become prominent and conical, sometimes depressed in the centre. The thirst is now very great, the pulse becomes tremulous, and the bowels are torpid (sometimes, however, affected by diarrhœa). Rumination has ceased from the first, and all food is refused, except that the poor sufferer is disposed to lick the moist earth to cool its parched tongue. Not only over the naked parts, but over the whole skin generally, are the papulæ now spread. The animal struggles on.

The papulæ are not confluent—at the end of three or four days the papulæ change their character; hitherto they have been filled with serum, more or less stained with blood. But now comes on the *vesicular stage*. The elevations lose their redness, and become white and opaque; and in about three days the *stage of suppuration* comes on. In about three days more a scab is formed, which, drying, hardens into a crust (this stage is called that of *desiccation*): these crusts are of different colours, varying from a brownish-yellow to brownish-black. They are cast off with the epidermis, laving pits or marks of different sizes on the site of the original *papulæ*. It must be observed that where the papulæ, vesicles, or scabs have been injured or detached by the animal rubbing itself, the sores assume an irregular appearance, and it is some time before they heal.

From the appearance of the eruption to the desquammation of the crusts, a period of sixteen or eighteen days elapses; sometimes more, after which the animal gradually recovers its usual health.

The treatment in *mild variola* consists in the administration at first of purgatives, as Epsom salts, and afterwards of tonics, as gentian and ginger. Common salt may be allowed freely. We need not say that sheep exhibiting symptoms of incipient *variola*, should be immediately removed far from the flock, and placed in a sheltered spot by themselves, with every attention to their comfort.

We have sketched a favourable case; but another picture has to be drawn.

2. *Malignant or Confluent Small-pox or Variola.*

Confluent variola in the sheep is a most fatal disease, and runs a rapid but uncertain course. It commences by active fever which quickly assumes a typhoid character. The pulse is at first rapid, but it soon loses its strength and becomes feeble and tremulous; the head swells,—the eyelids are puffed up; the pituitary membrane presents various degrees of sanguineous congestion,—the breath is fetid,—the thirst is intense,—and the animal seems to suffer extreme pain in the back and limbs. The wool falls off in patches, or is detached with a mere touch. After the fourth to the ninth day red spots, with inflamed rings at the base, appear on the lips and inner parts of the fore and hind limbs; these rise into confluent pustules, forming a mass of matter which is to assume a putrid character, degenerating into foul malignant ulcers, especially in warm weather, or when the animals are enclosed in too great numbers in closed or covered folds. During the progress of the disease a yellowish fetid mucus runs from the nose; and pustules form in the interior of the nasal cavities, in the pharynx, and even on the lining membrane of the larynx; occasionally concretions form at the entrance of the nostrils, stopping the orifice, and thereby impeding respiration. The eyes also are often involved in the mischief,—the humours are changed, and irrecoverable blindness ensues; sometimes portions of the lips slough away, and sometimes the animal is rendered lame. There is heaving of the flanks; moaning tones expressive of agony are uttered; the prostration of strength is very great, and the body is so tender that a touch will in some cases throw the sufferer into convulsions. Diarrhœa supervenes, and death soon closes the scene. Thus whole flocks are often swept away.

The appearances observable on a *post mortem* examination are variable. The liver and spleen are often enlarged and softened, as are also the kidneys, while there is serous effusion in the abdominal cavity. The lungs are generally congested, with liver-coloured spots, irregular in size and form, situated immediately below their pleural covering. The pituitary membrane is more or less disorganized by the ulceration of *mucous vari;* and these vari, of a copper-colour, are scattered over the fauces and lining membrane of the larynx. The stomach exhibits fewer traces of disease than might be expected, though, in some instances, the abomasum has been found to be infiltrated with blood, and ecchymosed. The brain is generally more or less congested, and sometimes the spinal chord exhibits traces of lesion. With respect to the skin and subcutaneous tissue, the extent of mischief there exhibited will depend upon the period of the disease at which the animal expired. If this fatal termination occurred in the early stage, either papular elevations or vesicles in thick array will be found spread over the whole surface; but if in the latter stage, ulcerations and sloughings of various extent will appear; and an engorgement of blood into the subcutaneous cellular tissue will evince the cause of the agony which the sheep suffered even from a slight touch while alive. The colour of the skin varies from red to dull livid purple, and every where the wool separates from its cutaneous follicles; and portions of skin are often already denuded.

What directions can we give for the treatment of malignant small-pox? It must be the farmer's aim to prevent the possibility of infection, inasmuch as the extent of mischief when the disease has once appeared is not to be calculated, except by the number of the sheep.

Let all the sheep which exhibit symptoms of variola be separated from the rest. In the early febrile stage, a mild aperient, consisting of two ounces of salts, half a drachm of aloes, and as much of ginger, in half a pint of warm water or thin gruel, may be given, and be perhaps repeated in a day or two. The animal should be then tempted to take food of a light nutritious kind, as boiled carrots, pea-meal gruel, linseed cake, and hay chaff, moistened with water and sprinkled with salt. Sometimes the animals refuse food entirely, however tempting it may be; and in this case, gruel of oatmeal or peameal must be administered to them in the form of a drench; to this gruel a little good ale or wine may be added, especially if the debility seems alarming. Mr. Simonds says that he has used the following mixture with success in extreme cases of prostration:—

Sulphate of iron	One scruple
Compound tincture of cinchona bark . .	One drachm
Compound tincture of gentian	One drachm
Good ale	Half a pint.

This forms a drench.

When diarrhœa supervenes opium is invaluable, and the following draught has been found very efficacious:—

Powdered opium	Fifteen grains
Powdered gall nuts	Of each half a drachm
Powder of catechu	
Linseed tea	Half a pint.

The repetition of these doses must be regulated by the condition of the patient.

During the earlier stages of the eruption, no lotion or ointment of any kind should be applied to the skin; but when ulceration begins to make its ravages, something must be done to check its progress if possible. Some recommend scarification and cauterization, and an application of sal ammoniac and oil, and the internal exhibition of camphor, quinine wine, &c. To the value of the quinine wine we readily subscribe, but we doubt the value of the external application, or the safety of the use of the cautery, as recommended by Mr. Turnbull.

Mr. Simonds strongly recommends a diluted solution of the chloride of zinc, the antiseptic and disinfecting properties of which are of a high order; and which, as a lotion for ill-conditioned wounds, has been found very efficient. The nostrils must be kept free from the obstruction of inspissated mucus, by frequent sponging with tepid water, and by smearing them with any simple ointment, as elder ointment or spermaceti ointment, rubbed up with a few drops of goulard extract *(Liq: Plumbi diacetatis.)*

After all, the struggle against malignant variola is a hopeless task; the observations, however, which we ha. e now made are applicable to mild variola, which varies in its intensity or virulence, blending by insensible shades into the malignant.

But are there no means, if not of checking the spread of this disease, of securing the ovine population from its devastating effects? Yes. The great agent in this work of mercy is *inoculation*. The disease must be met by the disease. The process of this plan is indisputable: it is practised abroad, and is recommended in the strongest terms, both by continental and English veterinary surgeons of the highest reputation. The matter should be taken from a sheep having mild variola, and the slight punctures may be made with the charged lancet, under the arms, or the inside of the thighs, or under the tail. "The experiments (says Mr. Simonds) performed at the Alford Veterinary School, show that only *one* death in *four hundred* cases was caused by ovination (or *clavelization* as the French call it). In Hartel D'Arboval's 'Treatise on Clavelée,' it is recorded that 32,317 sheep were inoculated, out of which 32,121 took the disease, and 196 escaped; that of the 32,121 infected animals 31,851 recovered, and 270 died, being at the rate of three in every 400. The efficacy of the operation was further tested, by exposing, at different times, 7,697 of the inoculated sheep to the influence of contagion, and not one of them suffered therefrom."

We could adduce, did space permit us, a multiplicity of similar facts, proving that we might successfully put this practice into general operation, and thus secure our flocks from the liability of contagion. The Government papers on the present subject, to which we have already alluded, are urgent on this point. At the same time, we think that the following precautions suggested by Mr. Turnbull (who strongly recommends inoculation), worth the notice of those who make purchases of foreign sheep:—

"Avoid purchasing foreign sheep, when there is any suspicion of disease; air well the places where the sheep are kept.

"Separate any diseased animal directly, if possible, 200 yards (a mile) from the rest.

"Hinder the shepherds or persons tending the diseased sheep from coming in contact with those in health.

"Avoid purchasing forage from places where there are diseased animals.

"Finally, bury the animals which die, with their skins on, untouched; and should the disease take an epidemic turn, isolate them, and hinder the circulation of all appertaining to the sheepfolds which may convey infection."

It would be impossible, were it even deemed adviseable, to keep foreign flocks landed on our shores in a state of quarantine; but certainly none should be introduced into any market for sale, without having undergone the inspection of an experienced veterinarian, and obtained his warrant. Another set of regulations might, we think, be adopted with advantage, which is in force in France and some other parts of the continent. We cannot explain them better than by translating an extract from the 'Code Rural,' compiled by M. Verneil, in 1810:—

Art. 227.—"When a flock shall be found to be infected with variola, the owner shall be bound to make a declaration of the fact immediately to the mayor of the *commune* (district), who will then call together the rest of the owners of sheep in the same *commune*.

Art. 228.—"These owners will determine upon the *cantonnement* (locality) to be assigned to the infected flock, and upon those to be occupied by the healthy flocks, according to circumstances, in every case, so that during the course of the disease neither the one flock nor the other shall pass over the same routes.

Art. 229.—"When an owner shall have an extent of ground sufficiently large for the reception of his flock, he shall be obliged to keep it within those bounds during the whole course of the disease.

Art. 230.—"The park of his diseased flock shall not be located at less than a hundred yards from the main roads, and less than fifty yards from the neighbouring lanes.

Art. 231.—"The mayor of the commune shall be bound to give information immediately to the mayors of the bordering communes of the existence of the disease, and of the cantonnements under quarantine.

Art. 132.—"In cases which render it needful that the flocks of one or more communes shall be obliged to go to the same watering place, those attacked with the disease shall not be allowed to go there until after the others, and only at the times and by the routes which shall be prescribed.

Art. 233.—"The animals which die of variola shall be buried with their skins and fleeces.

Art. 234.—"The measures prescribed by foregoing articles shall continue in operation during three days, the ordinary time of the duration of variola."—('Correspondence with Board of Trade,' 1848; No. 689, p. 4.)

After all, our great palladium will be found in inoculation. "Le seul moyen efficace (says M. Kerzeau) mis en usage, est inoculation." And he adds—"L'experience a prouvé que lorsque la clavelée était

abandonnée à elle même la mortalité des subjets atteint le chiffre de 40 à 60 pour 100; pendent qu 'en mettant en usage l'inoculation, la perte se reduisait de 5 à 10 pour 100 au plus."

The case between the sheep and the human subject runs parallel. We must take the bold course first introduced to the notice of Europe by Lady Mary Wortley Montagu, and by diligence variola will be set at defiance. Let infected sheep come over as they may, and die as they may, there will be no subjects upon which their infection can fasten; and thus it is that we may make this awful scourge an extinguisher of itself, or at least a destroyer of its own destructiveness.

In inoculating sheep, slight scratches by means of a lancet charged with good lymph from a healthy vesicle, and to which the lymph may be also freely applied, are said to be far preferable to punctures, especially if too deeply made, as the latter are apt to be followed by great inflammation and extensive sloughing.

We have thus briefly touched upon the principal points of this important subject—the introduction of Variola Ovis into our island—the symptoms of the disease in its mild and in its confluent form—the general morbid appearances after death,—and the outline of the treatment to be pursued. To these observations we have added a condensed summary of the preventive and the precautionary measures to be adopted; and it is to these that we trust for the ultimate safety of our flocks from the effects of a disease from which a few years since our island was happily exempt, but which, introduced from the continent, has lately ravaged our flocks, to the alarm of our Government, and the heavy loss of the extensive sheep farmers.

It seems folly to open the question as to the fitness of variolous mutton for human food; it is perfect carrion, and in London would be immediately seized on and destroyed by the clerks-collectors of the London wholesale markets; but unfortunately there were many towns in which no bye-laws or regulations were in force with respect to diseased or infected cattle, and unsound meat exposed for sale. This state of things has been met by an act of the last session of parliament, of which an abstract will be found in a subsequent page. Another act has also been passed respecting the importation of infected sheep, or of sheep suspected of being infected.

Here we close our brief resumé of the general history of Variola Ovis,—a disease long known on the continent, and unfortunately, unless strenuous measures be adopted, too likely to become as well known in our island.

VIII.—RAILWAYS OF GREAT BRITAIN.

The proceedings in respect to railways since the date of our last publication have been marked by a much more cautious tone than in one or two previous years. The recklessness of the joint-stock schemes of 1845, for which in numerous instances acts were obtained in 1846, has left consequences which the present year has developed in rather a serious degree.

RAILWAY LEGISLATION OF 1848.

By referring to the various volumes of the "Companion" for former years, it will be seen that the Acts of Parliament and the miles of railway have been as follows:—

Years.	Railway Acts.	Miles sanctioned.
1801 to 1840	299	About 3000
1841	19	15
1842	22	67
1843	24	91
1844	48	797
1845	120	2883
1846	272	4790
1847	184	1663
	988	About 13,300 miles.

The Session of 1848 has added 83 to the Railway Acts, making the total number 1071; but the mileage of new railway sanctioned is very small, probably not more than 300 miles. The chief objects of these 83 acts have been deviations, amendments, amalgamations, increase of capital, and short branches. The longest new line is the South Western, from Salisbury to Exeter. Of the 83 acts 52 relate to English railways, 21 to Scotch, 6 to Irish, and 4 to Welsh. The following brief notice of the object of each act will suffice, without any lengthened detail:—

1. *Aberdare;* lease to Taff Vale Railway.
2. *Aberdeen;* additional capital.
3. *Arbroath and Forfar;* additional capital.
4. *Birmingham and Oxford;* deviation at Leamington.
5. *Bristol and Exeter;* Taunton and Castle Cary branch.
6. .. .. Wells and Glastonbury branch.
7. .. .. Glastonbury Canal purchase.
8. *Caledonian;* Clyde Bridge and Glasgow Station.
9. .. Branches from Clydesdale line.
10. *Chester and Holyhead;* increased powers.
11. *Drumpeller Railway.*
12. *Dundee and Arbroath;* Dundee Junction.
13. *Dundee and Perth;* Dundee Junction.
14. .. .. Lease of Dundee and Arbroath.
15. *East Lincolnshire;* deviation near Grimsby.
16. *Edinburgh and Bathgate;* extension and deviation.
17. *Edinburgh and Glasgow;* amendment and branches.
18. .. .. Edinburgh and Bathgate Amalgamation.
19. .. .. Airdrie and Monklands arrangement.

20. *Edinburgh and Northern*; branches to Roscobie, &c.
21. *Exeter, Yeovil, and Dorchester*; leased to South Western.
22. *Exeter and Exmouth*; amendment.
23. *Furness*; amendments.
24. *Glasgow, Paisley, and Greenock*; amendment and branches.
25. *Glasgow, Paisley, Kilmarnock, and Ayr*; amendment.
26. *Great Northern*; Isle of Axholme extension.
27. *Great Western*; additional powers of purchase.
28. .. Windsor branch.
29. Hungerford and Westbury extension.
30. *Kendal and Windermere*; amendment.
31. *Lancashire and Yorkshire*; amendment.
32. *Leeds Central Railway Station*; by four companies.
33. *Leeds and Thirsk*; alteration of levels.
34. .. .. Northallerton branch.
35. .. .. Harrogate and Pately branch.
36. *London, Brighton, and South Coast*; new station.
37. *London and Blackwall*; connecting branch.
38. .. .. branch to Docks.
39. *London and North Western*; Leamington deviation.
40. *London and South Western*; Southampton and Dorchester Amalgamation.
41. .. .. .. various amendments.
42. *Londonderry and Coleraine*; deviation and amendments.
43. *Londonderry and Enniskillen*; partial relinquishment.
44. *Manchester, Matlock, &c.*; deviation and branches.
45. *Manchester, Sheffield, &c.* Manchester extension.
46. .. .. Manchester Station approach.
47. .. .. Ashton Canal purchase.
48. .. .. Sheffield Canal purchase.
49. .. .. Humber Ferries improvement.
50. .. .. Junction with Midland.
51. .. .. Sheffield extension.
52. *Manchester South Junction.*
53. *Midland Great Western (Ireland)*; deviation.
54. *Midland*; alterations and deviations.
55. .. Ripley branch.
56. .. Gloucester and Stonehouse junction.
57. *Monkland, Kirkintilloch, Ballochney, and Slamannan Railways*; powers to lease or sell.
58. *Newport and Pontypool*; amendment.
59. *Newry and Enniskillen*; amendments.
60. *Norfolk*; amendment, and extension of time.
61. *North British*; modification of capital.
62. *North Staffordshire*; Ashbourne branch.
63. .. .. Willington deviation.
64. *North Western*; deviations at Skipton, &c.
65. *Oxford and Wolverhampton*; increase of capital.
66. .. .. .. deviations.
67. *Paisley, Barrhead, and Hurlet Railway.*
68. *Royston and Hitchen*; Cambridge extension.
69. *Salisbury and Yeovil*; leased to South Western.
70. *Scottish Midland Junction*; branches.
71. *South Yorkshire*; extension and alteration.
72. *Stirling and Dunfermline*; deviations.
73. *Vale of Neath*; increased powers.

74. *Waterford, Wexford, Wicklow, and Dublin;* new powers.
75. *Waterford and Kilkenny;* amendment.
76. *Whitehaven Junction;* new powers.
77. .. .. extension and branches.
78. *Whitehaven and Furness;* deviation.
79. *Windsor and Staines;* extension into Windsor.
80. *Wishaw and Coltness;* deviation.
81. *York and Berwick;* deviation near Thirsk.
82. .. .. lease of Hartlepool lines.
83. .. .. main line improvements.

An Act was passed in 1847 to enable railway companies to postpone the execution of some of their works until the pressure on the money market should be somewhat lessened. Application to this effect was to be made to the commissioners of railways, who had the power of approval or disapproval. From a return made in March, 1848, it appears that applications for postponement (generally for a period of two years) were made by 104 companies; the works to which this postponement refer amounted in the aggregate to 3650 miles in length, and the estimated cost was about 59,000,000*l.*, or an average cost of about 17,500*l.* per mile. Of this length of 3650 miles, some portions are in course of construction, and some not yet commenced, but the ratio between the two classes is not stated. Nearly all the applications for extension of time were granted by the commissioners.

GROUPS OF AMALGAMATED RAILWAYS.

The readers of Bradshaw's 'Guide,' or of the weekly railway traffic tables, are sometimes puzzled to account for the apparent disappearance of a large number of railways, whose names used to be before the public. They have been absorbed in larger undertakings. The purchases, leasings, and amalgamations between different companies have been so exceedingly numerous, that it may be convenient to present them here at one view. This we are enabled to do from a return prepared by order of the House of Lords in the spring of 1848, slightly modified by later arrangements.

London and North Western—about 980 *miles.*

London and Birmingham; Grand Junction; Liverpool and Manchester; Manchester and Birmingham; Aylesbury; Dunstable; Bedford; West London (one moiety); Warwick and Leamington; Warrington and Newton; Chester and Crewe; Kenyon and Leigh; Bolton and Leigh; Trent Valley; North Union (viz., Preston and Wigan, Wigan Branch, and Bolton and Preston), two-thirds; Huddersfield and Manchester; Leeds and Dewsbury; Birmingham and Stour Valley; Oxford and Bletchly; Buckingham and Brackley; Buckingham and Aylesbury; Rugby and Leamington; Coventry and Leicester; Northampton and Banbury; Shropshire Union; various branches and extensions.

Great Western—about 970 *miles.*

Great Western; Cheltenham and Great Western; Oxford; Berks and Hants; Oxford and Rugby; Oxford, Worcester, and Wolverhampton; Monmouth and Hereford; West London (one moiety); Bristol and Exeter (lease to terminate in 1849); Birmingham and Oxford; Birmingham, Wol-

verhampton, and Dudley; South Wales; Wilts, Somerset, and Weymouth; Cheltenham and Oxford; Great Western and Uxbridge; various branches and extensions.

Midland—about 670 *miles.*

North Midland; Midland Counties; Birmingham and Derby; Birmingham and Gloucester; Bristol and Gloucester; Sheffield and Rotherham; Leeds and Bradford; Leicester and Swannington; Erewash Valley; Nottingham and Lincoln; South Midland; various branches and extensions.

London and South Western—about 420 *miles.*

London and Southampton; Guildford Junction; Richmond; Windsor, Staines, and South Western; Southampton and Dorchester; Guildford Extension, and Fareham and Portsmouth; Salisbury and Yeovil; Exeter, Yeovil, and Dorchester; various branches and extensions.

Great Northern—about 390 *miles.*

London and York; East Lincolnshire; Stamford and Spalding; Royston and Hitchen; various branches and extensions.

York and Berwick—about 390 *miles.*

Newcastle and Darlington; Newcastle and Berwick; Newcastle and North Shields; Durham Junction; Brandling Junction; Clarence and Hartlepool Junction; Pontop and South Shields; Durham and Sunderland; Great North of England; Hartlepool Dock and Railway; various branches and extensions.

Lancashire and Yorkshire—about 360 *miles.*

Manchester and Leeds; Ashton and Staleybridge; Manchester and Bolton; Liverpool and Bury; Huddersfield and Sheffield; West Riding Union; Wakefield, Pontefract, and Goole; North Union (one-third); Barnsley Junction; Preston and Fleetwood; Manchester and Southport; Oldham Alliance; various branches and extensions.

Eastern Counties—about 340 *miles.*

Eastern Counties; Northern and Eastern; Stratford and Thames; North Woolwich; Wisbeach, St. Ives, and Cambridge; Enfield and Edmonton; Maldon, Witham, and Braintree; Harwich; Newmarket and Chesterford; various branches and extensions.

York and North Midland—about 330 *miles,*

York and North Midland; Leeds and Selby; Hull and Selby; Whitby and Pickering; various branches and extensions.

Glasgow and Ayrshire—about 320 *miles.*

Glasgow, Paisley, Kilmarnock, and Ayr; Glasgow and Belfast Union; Glasgow, Dumfries, and Carlisle; Paisley and Renfrew; Kilmarnock and Troon; various branches and extensions.

South Eastern—about 310 *miles.*

London and Dover; London and Greenwich; Canterbury and Whitstable; Gravesend and Rochester; Ashford and Hastings; Reading, Guildford, and Reigate; Croydon to Reigate (one-half); various branches and extensions.

Caledonian—about 300 *miles.*

Caledonian; Glasgow and Greenock; Clydesdale Junction; Glasgow, Garnkirk, and Coatbridge; Polloc and Govan; Wishaw and Coltness; various branches and extensions.

Aberdeen—about 250 *miles.*

Aberdeen; Arbroath and Forfar; Great North of Scotland; Great North of Scotland Eastern Extension.

Manchester, Sheffield, and Lincolnshire—about 210 *miles.*

Manchester and Sheffield; Great Grimsby and Sheffield; Sheffield and Lincolnshire Junction; Sheffield and Lincolnshire Extension; Manchester and Lincoln Union; various branches and extensions.

London, Brighton, and South Coast—about 180 *miles.*

London and Brighton; London and Croydon; Croydon and Epsom; Brighton and Chichester; Chichester and Portsmouth; Brighton and Hastings; various branches and extensions.

Norfolk—about 160 *miles.*

Yarmouth and Norwich; Norwich and Brandon; Lowestoft Harbour and Railway; Yarmouth and Diss; various branches and extensions.

Eastern Union—about 150 *miles.*

Eastern Union; Ipswich and Bury; Hadleigh Junction; Colchester, Sudbury, and Halstead; various branches and extensions.

North British—about 140 *miles.*

North British; Leith and Portobello; Edinburgh and Dalkeith; Edinburgh and Hawick; various branches and extensions.

Edinburgh and Northern—about 140 *miles.*

Edinburgh and Northern; Edinburgh, Leith, and Granton; East of Fife; various branches and extensions.

Edinburgh and Glasgow—about 100 *miles.*

Edinburgh and Glasgow; Slamannan Junction; Stirlingshire Midland Junction; Edinburgh and Bathgate; Airdrie and Bathgate; various branches and extensions.

East Anglian—about 85 *miles.*

Lynn and Ely; Lynn and Dereham; Ely and Huntingdon; branches.

East Lancashire—about 80 *miles.*

Manchester, Bury, and Rossendale; Colne Extension; Blackburn and Preston; Liverpool, Ormskirk, and Preston; various branches and extensions.

In respect to the above groups of railways, the following points have to be borne in mind—that the tie of connexion between the several companies of any one group is in some instances by purchase, in some by amalgamation or partnership, and in the rest by lease; that some of the lines are finished and working, some in progress, and some not yet begun; that the union or consolidation has been in some cases of long continuance, in some is only now being completed, and in some is yet waiting for the sanction of the shareholders; but that in all cases there is legislative sanction for the union. The British railway companies which do not find a place in any of the above twenty-two groups are not very numerous. Some of the leading companies have in October and November published detailed accounts of their liabilities and probable prospects. From these accounts it will be perceived, that many of the new lines included in the above groups are to be postponed indefinitely; so that, practically, the mileage will not for many years to come reach the above figures. The London and North Western, the Great

Western, and the South Western, are now proposing to amalgamate; should they do so, the joint capital will reach nearly 60 millions sterling! Several minor amalgamations are also under negotiation, in respect to the Scottish Central, Scottish Midland, Newcastle and Carlisle, Maryport and Carlisle, East and West Yorkshire, &c.

PRICES; CALLS; CAPITAL; DIVIDENDS.

There has now, for three years, been an almost uninterrupted declension in the market value of railway property. It was dreaded by many cautious persons, in 1845, that the then existing recklessness would bring about disastrous results. The disturbed state of political and commercial matters has undoubtedly contributed to this end; but it is indisputable, that the depreciation is mainly due to the excessive absorption of capital in one particular species of enterprise; the much-dreaded "calls" have drained away money which is legitimately required in other quarters. It may be useful to take twelve of the older companies, and compare the prices of their shares in one particular week of four successive years—say the first week in August, which was about the height of the fever in 1845; we give also the prices for a later date. As three of the companies have each called up an additional instalment on their shares within this period, we will adjust the prices to "paid up" shares, to render the comparison a fair one:—

	August 1845.	August 1846.	August 1847.	August 1848.	Oct. 22, 1848.
	£	£	£	£	£
London and North Western	252	210	170	114	100
Great Western	246	165	125	92	77
South Western	82	75	60	41	36
Midland	180	140	120	94	66
South Eastern	47	40	33	24	21
Bristol and Exeter	130	110	100	67	60
Lancashire and Yorkshire ..	230	135	110	94	65
Sheffield and Manchester ..	135	110	90	60	40
Brighton.....	80	63	50	28	25
York and Berwick	55	42	36	30	21
York and North Midland ..	112	97	80	62	42
Edinburgh and Glasgow....	87	73	60	37	36

The average fall in the twelve companies has been 64 per cent. in 3¼ years. Prices have since rallied a little. In some of the new companies, and also in respect to some of the new shares in the older companies, the depreciation is still more marked. Some of the shares are now (October, 1848,) worth *less than nothing:* they could not be *given* away: no one would accept them as a gift, unless accompanied by a bonus in money to induce the acceptance. This occurs where there are still further "calls" to be made on the shares; the liability to which rests with those in whose names the shares are registered.

The calls made on the stock of the new companies, and on the various kinds of new shares in the old companies, have been excessively heavy in the last two years. Frequently, the amount has reached a million sterling in a single week. In the first ten months

(January to October inclusive) of 1847, the amount so called up was 31,955,355*l.* for British railways, and 5,644,000 for British shares in foreign railways—making in the whole 37,599,355*l.* In the first ten months of 1848 the calls amounted to 26,850,709 for British railways; and 3,102,071*l.* for British shares in foreign railways—making in the whole 29,952,770*l.* Bringing in the calls for the last two months of 1847, we find that in twenty-two months (January 1, 1847, to October 30, 1848), there has been paid by British shareholders no less than 75,000,000*l.* to the railway companies, or nearly 800,000*l.* per week. Nearly the whole of this has been expended, besides loans on debenture.

The capital invested in these undertakings has reached a most astounding amount. The following, in round numbers, represents the share capital and the borrowing powers of all the British railway companies, according to the Acts of Parliament which sanction them:—

	Acts.	£
1801 to 1840	299	69,000,000
1841 to 1844	113	18,000,000
1845	120	59,000,000
1846	272	121,000,000
1847	184	35,000,000
1848	83	18,000,000
	1071	£320,000,000

As nearly all railways have cost more than the Parliamentary estimates, the share capital and the borrowing powers will together more nearly represent the probable total outlay, than the share capital alone.

There has been a feature in the railway system within the last twelve months which has been instrumental in depressing the market value of the shares—viz., the reduced rate of dividends paid by the leading companies. This reduction has been brought about by four different causes: 1, the disturbed state of political and commercial affairs has considerably lessened the total amount of traffic in the country, both in passengers and in merchandise; 2. by the opening of new and competing lines into particular districts, the portion of traffic which now falls to the share of the older companies is less than formerly; 3, some of the old companies have leased or purchased particular lines on terms more lavish than the traffic has been found to warrant; and 4, some of the companies have issued new shares to pay off loans or debentures, which shares, by receiving dividends *pro rata* with the older shares, lessen the rate per cent. receivable on each. From one or more of these causes combined, most of the old companies have been compelled to reduce the rate of dividend. The greatest of them all, the London and North Western, has suffered a severe fall in this respect. In December, 1846, the dividend was at the rate of 10 per cent. per annum; in June, 1847, 9 percent.; in December, 1847, 8 per cent.; and in June, 1848, 7 per cent. The fall in the Great Western has been from 8 to 7 per cent.; in the South Western from 9 to 6; in the Midland from 7 to 6; in the York and Berwick from 9 to 8; in the York and North Midland from 10 to 8.

TRAFFIC, NEW OPENINGS, GAUGE QUESTION, &c.

The traffic, as has just been stated, has suffered from more than one cause during the last twelve months. It is difficult to compare usefully one whole year's traffic with another, because the partial openings of new lines take place at various periods; but we may easily compare two similar weeks in successive years. Take the first week in

	Miles open.		Traffic.		Per Mile per week.
November 1847..	3,260	....	£175,000	....	£54
November 1848..	4,330	....	205,000	....	47

The total mileage of railway open in the United Kingdom on January the 1st, 1849, will probably be about 4,400 miles, out of about 13,600 miles sanctioned; leaving 9,200 miles either partially constructed, or not yet begun.

There has been a considerable increase in the miles of railway open for traffic in the last year. On October 1, 1845, the length of passenger railway was about 2200 miles; by October 1, 1846, about 2640 miles; and by October 1, 1847, about 3,200 miles. In the twelve months ending October 1, 1848, most of the principal companies have increased the length of their lines in operation. The Caledonian, the Chester and Holyhead, the Aberdeen as far as Montrose, the Scottish Central, the Scottish Midland, the Edinburgh and Northern, the Glasgow, Kilmarnock, and Ayr, the York, Newcastle, and Berwick, the York and North Midland, the Manchester, Sheffield, and Lincolnshire, the London and North Western, the Midland, the Great Western, the South Devon, the South Western, the Eastern Counties, and various minor companies, have increased the number of miles of their lines previously in operation in Great Britain; while a few of the Irish companies have also in part opened in the same period. The tube-bridges over the Conway and the Menai, in connexion with the Chester and Holyhead Railway, have been perhaps the most novel and the most stupendous among the new works of the year. The noble viaduct of the Chester and Shrewsbury Railway over the valley of the Dee, the high level bridge of the York and Berwick Railway over the Tyne, and the timber viaduct of the same company over the Tweed, are also great works. One of the most important openings in its effects is among the least in length; viz., the Waterloo Bridge Extension of the South Western Railway. This very costly portion (about two miles) has given to the South Western Company a better position for a terminus, perhaps, than is possessed by any other of the London companies. Its advantage will be especially felt in connexion with the busy short traffic on the Richmond and Windsor branch.

It is expected that the South Devon Company will abandon the use of atmospheric traction, which has been found extremely costly. The Croydon line has already abandoned it, so that there will only remain the Dublin and Kingstown line on this system.

The "Gauge question," although not actually settled, has assumed a more decided form than at the date of our last publication. In respect to the Oxford and Birmingham line, the narrow gauge party

has been defeated both in the houses of parliament, and in the courts of law and equity; and that line will probably become the property of the Great Western company, although great delay has arisen both in the completion of the transfer, and in the finishing of the line itself. A short narrow gauge portion has been sanctioned from Gloucester to Stonehouse, to complete the narrow gauge system of the Midland Company. The broad gauge has been allowed to extend from Hungerford through the Vale of Pewsey to Devizes and Westbury, as a portion of a new line to Exeter; notwithstanding that another new Exeter line, on the narrow gauge, is sanctioned by way of Salisbury and Yeovil. After a close struggle both gauges are allowed to enter Windsor; one from Slough, and the other from Datchet. The Bristol and Exeter lease is nearly expired, and the line will have to be worked independently of the Great Western; the South Devon, on account of the failure of the atmospheric system, is in a depressed and unfortunate position; and the Cornwall and West Cornwall are waiting for better times before they begin to ask their shareholders for money to make those lines; so that the broad gauge in the west of England is not in a very flourishing state. None of the broad gauge lines sanctioned in 1846 or 1847 are yet finished or opened.

The influence of railways on agriculture and on fisheries is becoming considerable. The celerity with which provisions can be brought to the busy centres of population, from the agricultural districts and from the sea ports, has now overturned many of the earlier arrangements, and has opened new sources of traffic, the full value of which remains yet to be developed. The Eastern Counties Railway is above all others distinguished for this kind of traffic. It commands the counties of Essex, Suffolk, and Norfolk, the wealth of which is almost entirely agricultural; and the produce is brought up to London in enormous quantities. It may be interesting to give a list of the varieties and quantities of provisions carried on this railway in one week, in September, 1848:—Beasts 529, calves 73, sheep 5598, pigs 865, grain and malt 17,711 sacks, flour 6578 sacks, meat 197 tons, poultry 37 tons, fish 332 tons, fruit and vegetables 643 tons, beer 229 tons, wine and spirits 73 tons, milk 19,608 quarts, bread 59 cwts.

Railways, too, are becoming agents in sanitary matters. At Newcastle-on-Tyne the town's refuse has been for some years carted out on a spot in or near the common moor, whence it was taken away in other carts, belonging to the farmers of Morpeth and other places, who paid 4*s*. 6*d*. per cart load for it. The York and Berwick Railway has become the medium of a much improved arrangement. The corporation now takes the collection of these matters upon itself; the refuse is conveyed in carts to the railway, along which it is transported, in vehicles and at hours likely to be as little inconvenient as possible; and it is now delivered in the agricultural districts at 2*s*. 6*d*. per ton. The farmers of Northumberland now use the whole of the refuse of Newcastle, and the demand is far beyond the supply. Nothing seems so likely as the railway system to carry out one of the great principles of agricultural chemistry, viz., the use of towns' refuse for country farming.

IX.—EMIGRATION TO THE BRITISH COLONIES.

Once more the words Emigration and Colonization are heard on all sides; people begin again to arouse themselves to a sense of the impolicy of staying where every thing says they are not wanted, and to listen to the glowing accounts of the countries beyond sea, where they are told they would be so welcome; capitalists yearn for some better investment of their funds than England now affords; tradesmen, for some different sphere of exertion than a market where their profits are beaten down by intense competition until they almost or entirely disappear; workmen and labourers, for a field to afford them a chance eventually of raising themselves into comparative independence. The enterprising spirit of England, also, that which led to so many adventurous and spirit-stirring expeditions in the time of Elizabeth, has yet its exemplars, who, weary of the dull common-place of their lives at home, listen with eager curiosity to the tale of the novel life of our young colonies, where men do indeed enter upon a new world, with new hopes, new opportunities, new strength, new enjoyments. And if all these—the ordinary influences that impel men to break up their homes, and cross the ocean for thousands of miles, to establish new homes amid more genial circumstances—are just now unusually powerful, it is not to be denied that there are many additional special reasons why, for the sake of those who stay as well as for those who go, emigration should be vigorously and rapidly promoted, and upon a larger scale than we have yet known. Look at the condition of the railway world! Is it not certain that an enormous amount of able-bodied labour, hitherto absorbed by these great works, is being, and will continue to be, thrown upon the labour market, in consequence of the cessation of all sorts of railway speculations during the depressed state of railway property? And can there be a more dangerous body of idlers than these men will prove;—strong, ignorant, undisciplined, and to a great extent free from domestic ties? Look again at Ireland! into what a chaos do not all things appear to be falling in that ever-wretched country? If the strong arm of help, directed by the strong hand of wisdom, is not speedily stretched out to save Ireland, what will become of her? what may not *we* suffer, whose interests are bound up so intimately with her? The increasing pressure upon our poor-rates through the influx of the Irish poor, and those enormous money demands which recur more and more frequently from Ireland, are monitions, painful enough in themselves, of the worse calamities threatening beyond if they are disregarded. Add to this the political aspect of the times, which should make every man, the most selfish as well as the most patriotic, exert himself to mitigate in all conceivable ways the pressure of social evils upon the poor, and we may see plainly why so strong and we hope permanent a current of opinion is once more setting towards emigration; and why we may congratulate ourselves that the fact is so. We do not

assert that emigration is the most valuable of all social remedies; we do not pretend to estimate the exact amount of its value at all; sufficient be it for us to know that *here* are multitudes of men, women, and children, seeking vainly to be employed, and that *there* are employers, miserable because they cannot get men, women, and children enough, to develope the capacities of their wealth. Emigration will bring these two together; and every one must acknowledge the union to be most desirable. The modes of accomplishing it form the subject of the present paper. We may classify these modes into two divisions—Individual and National Emigration.

1. INDIVIDUAL EMIGRATION.

Who are the classes that emigration will most benefit? In every thriving community capitalists must find ample opportunities for investment. Whatever the other classes of the community can do to make themselves wealthy, capitalists can also do on a still larger scale. They can buy land extensively, and dispose of it in small lots, at greatly advanced prices; they can farm largely; they can, like the patriarchs of old, cover the boundless plains of Australia with their flocks and herds; or they can, by lending their funds to others, obtain at once good security and large interest. The brothers Sidney, in their new and able periodical, 'Sidney's Emigrants' Journal,' say that ten and even twelve per cent. may be obtained on good mortgage security in Sydney, and probably in Port Philip. But the large and small capitalists differ in this: the one can still remain at home without absolutely losing ground; but the other frequently cannot, the interest of his capital being too trifling to support him. These are the men to emigrate. What can a tradesman or agriculturist, with a family and two or three hundred pounds, for instance, do in England, if no special openings lie before him? A whole life-time of anxiety and domestic suffering seems to rise before us in answer. The same man buying a little land and stock in one of the colonies, with average knowledge and industry, will certainly become independent, and may not improbably become rich. Every additional child under such circumstances is but so much additional wealth to him. Another very large class of persons, consisting of all those who hang in poverty on the skirts of the chief professions and callings of life, such as men who have been unsuccessful in the arts, literature, law, and medicine, clerks on small salaries, sons of decayed merchants or tradesmen, &c. may also go to the colonies with a full conviction of obtaining a greatly improved position, if only they are determined to do whatever offers at first, even though they become shepherds in the bush to the Squatters of Australia. They may be sure of employment in that way if no other can be obtained, and they may be sure in that way of the opportunity of saving money, which, carefully invested, will eventually enable them to rise step by step to the position of independent (even if small) landowners, and sit each in his old age under his own vine or fig tree. We need not point out what a source of enjoyment for themselves, what an instrument for the civilization of the colony, their superior tastes and knowledge may prove, if they can but bring them into har-

mony with the circumstances of their colonial life. Mechanics of every denomination are justified in looking to emigration as the easiest mode of bettering their condition. They, too, can fill any of the offices that all men may fill when nothing better offers; whilst their mechanical skill will be from time to time in requisition, and well paid, either in money or money's worth, wherever they go and whatever they do. In most cases, however, they will find the use of their own trade will be sufficient not only to give them the necessaries of life, but to afford them that start forward on the path to independence which all men seek, and very rightly seek, in our colonies. If we were to particularize any artisan class as particularly eligible, it would be that of miners, for whom a brilliant career is evidently opening in South Australia. Nor need the agricultural labouring class despair of realizing a great and permanent improvement of their condition in any of the chief colonies; but especially as shepherds in the bush in Australia, where there is an unlimited demand for their services. Lastly, single women are greatly in request for field and farm labours, for domestic service, for shop-keeping, for dress-making, for governesses, and we may add for wives, in the same country, where the proportion of the sexes is at present about as two males to one female. We may here give a word of caution. Whatever the other advantages of a colonial life, and they are great, it does not of course possess the same facilities for the gratification of one's habitual comforts, tastes, and luxuries, as Old England affords. The mind must rest more on itself. Social converse will often extend no further than the sphere of a single family. Privations may often have to be borne through the immaturity of the arrangements for the domestic economy of the country, and unusually severe exertions may not unfrequently be required. But on the other hand, the nature of the life has a powerful tendency to call forth and to reward, the qualities it demands. A new spring is given to existence, if the mind be at all in harmony with its objects at the outset. Who does not know what power there is in the very feeling of independence? that power is ever most strongly developed in the emigrant.

Whither should Emigrants go? If we were to be guided in our answer by the facts as to where the great bodies of emigrants actually do go at present, we should say first, to the United States; second, to Canada, and other North American colonies; and third, with a long interval between, to Australia and New Zealand; to which countries the number of emigrants from the United Kingdom in 1847, were, taking them in the same order, respectively as follows: 142,154; 109,680; and 4,949; which with 1,487 to all other places, makes the total number of emigrants in 1847, 258,270. But while we take these facts as an extraordinary evidence of the force of the emigration current now beginning, we cannot but point out, that they are not so much in accordance with what is best for those who emigrate, as with what is most within their power; that it is often their poverty, not their will, that consents to choose Canada or the United States in preference to Australia and New Zealand. The cost of a steerage passage, with provisions, from Liverpool to Port Philip, is 20*l.*; from Liverpool to

Quebec, about 5*l.* or 5*l.* 10*s.* Here is the great reason for the preference shown. Another and weighty cause is doubtless the extent of the relationships between those who have previously emigrated, and those who, in subsequently following their example, naturally follow their route. It is great consolation to know that a home and friends await you when you first land in a foreign country, no matter how short the time, and how limited the extent, for which you can avail yourself of their aid. While giving due force to these considerations, we must, however, resolutely keep in view the great objects of emigration, which are not simply to find a country and a home, but, in giving up our own, to find the *best* that we can in exchange on other shores. A little extra exertion, and a little extra delay, may remove the difficulty of extra cost of passage; but a life-time may fail to remedy the loss incurred through a wrong choice of country. And as to friends, they lie everywhere in the colonies for well-conducted men and women. Nothing is more delightful and touching than to read of the hospitality in the backwoods of Australia, of the very men who had been years before transported from England for their attacks upon the property and possessions of others. And if the genial social atmosphere thus affects our convicts when prosperity opens a door to their hearts, what must be its influence over those whose affections have never been chilled towards the mother country who no longer feel; that every mouthful shared with others may be given only to leave their own children without food at some future day; and who, while their growing interests attach them to their present home, are necessarily bound by all the ties of recollection and association with their former one; and seem, therefore, in every new comer from the dear old country, to receive tokens of friendly remembrance, and to exchange with it mutual congratulations.

In estimating the respective advantages of the different colonies, the chief topics which it is necessary to consider are,—the demand for labour, the prices of provisions, clothing, &c., the price, facilities for purchase, and value of land, and the consequent prospects of agricultural and commercial speculation; and, lastly, the climate and general adaptation of the country to the requisitions of human wants and desires. In the following page will be found some illustrations of the comparative position of the chief colonies in most of these matters.

The extraordinary difference there shown between the modes of dealing with the crown lands in Australia and in the other chief colonies, naturally attracts attention. This is owing to the adoption of Mr. Wakefield's theory of colonization in the former colonies; and was intended to insure due and permanent proportions between the capital and labour introduced. What it has insured is, if we are to believe the statements of its very numerous opponents, the stoppage of emigration to—and almost universal dissatisfaction in —the colonies where it has been adopted. This is certain, that the amount received by the government for land in Australia, has decreased from 115,825*l.*, when land was sold at 5*s.* the acre, to about 8,000*l.* a year, now that 20*s.* is demanded; and the amount of

	Canada, West.	Canada, East.	New Brunswick.	New Zealand.	New South Wales.	South Australia.	West Australia.
Wages of Labour.							
Farm Labourers	30*l.* a year(1)	2*s.* to 2*s.* 6*d.* a day(2)	17*l.* a year(1)	20*l.* to 30*l.* a year(1)	23*l.* to 31*l.*(1) a year	25*l.* to 30*l.*(1) a year.	20*l.* to 40*l.*(1) a year
Bricklayers(3)	5*s.* a day(2)	5*s.* to 6*s.* a day(2)	5*s.* to 7*s.* a day(2)	5*s.* to 7*s.*(2) a day	5*s.* 6*d.* to 7*s.*(2) a day	6*s.* 9*d.*(2) a day	8*s.*(2) a day
Dairy Women	12*l.* a year(1)	13*s.* 6*d.* to 18*s.* a month(1)	7*l.* 10*s.*(1)	12*l.* to 20*l.*(1) a year	17*l.* to 25*l.*(1) a year		15*l.* to 25*l.*(1) a year
House Servants, female				12*l.* to 20*l.*(1) a year	18*l.* to 28*l.*(1) a year	10*l.* to 20*l.*(1) a year	15*l.* to 20*l.*(1) a year
Prices of Provisions, &c.							
Wheat, per bushel	4*s.*	4*s.* 4*d.*	4*s.*	5*s.* to 7*s.*	5*s.*		6*s.*
Bread, best, for 4lbs.	5*d.*	8*d.*	7*d.*	10*d.*	9*d.*	6*d.*	10*d.*
Rice, per pound	2½*d.*	3½*d.*	2½*d.*	3*d.*	3*d.* to 3½*d.*	2½*d.*	2*d.*
Tea, per pound	3*s.*	2*s.* 8½*d.*	2*s.*	2*s.* to 3*s.*	2*s.* to 2*s.* 3*d.*	2*s.*	2*s.*
Fresh Meat, per pound	3*d.*	2½*d.* to 4*d.*	2½*d.* and 3*d.*	3*d.*	2*d.* to 2½*d.*	2½*d.*	4½*d.*
Fresh Milk, per quart	2*d.*	3½*d.*	3*d.*				
Prices of Clothing.							
Common Shirts	2*s.*	2*s.* 3*d.*	3*s.* 4*d.*	2*s.*	2*s.* 8*d.* to 3*s.*	2*s.* 6*d.*	2*s.* 3*d.* to 3*s.*
Flannel, per yard	2*s.*	1*s.* 6*d.*	1*s.* 6*d.*	1*s.* 9*d.*	1*s.* 9*d.* to 2*s.*	1*s.* 6*d.*	
Blankets, per pair	15*s.*	13*s.* 6*d.*	15*s.* to 20*s.*	16*s.* to 25*s.*	15*s.* 3*d.* to 16*s.* 6*d.*	9*s.* 6*d.*	10*s.* to 20*s.*
Men's stout shoes, per pair	5*s.* 6*d.*	7*s.* 6*d.* to 8*s.* 1*d.*	6*s.*	6*s.*	7*s.* 3*d.* to 10*s.* 6*d.*	5*s.* 6*d.*	5*s.* to 8*s.*
Land Sales.							
Price of Land per acre, about	6*s.* 7*d.*	4*s.* to 6*s.*	About 2*s.* 8*d.*, upset price.	Lowest upset price, one pound sterling			
Regulations as to quantity	In whole lots of 200 acres, or half lots of 100 acres.		As little as 50 acres may be purchased.	Generally in lots of 640 acres			
Mode of Sale	Fixed price	Fixed price	Auction.	Auction, or, if not sold, at the upset price afterwards			
Cost of clearing per acre	About 3*l.* on favourably situated land; more in unsettled districts	About 2*l.*	2*l.* 14*s.* to 3*l.* 12*s.*	Fern land, about 10*s.* to 30*s.*; woodland, from 3*l.* to 10*l.*	The finest lands consist of rich undulating plains ready for the plough at once.		

(1) With board and lodging. (2) Without board and lodging. (3) Bricklayers' wages may be taken as a fair example of the wages generally paid to the artisans that are most in request, such as Masons, Blacksmiths, Carpenters, &c.

emigration depending upon that source, has of course declined in the same proportion. So that independent of any question of the duty of government to deal with its own subjects in a liberal spirit, it appears to stand in the position of exacting terms, so much beyond the value of the land, that, except for special purposes, the land sales have in fact nearly ceased altogether in Australia. But even this is not the most unsatisfactory part of the case. Ordinarily land is only sold in Australia in portions of not less than 640 acres; so that here is a direct power of the government exerted to prevent the humbler classes of the community from investing their savings in land, and so of preventing the establishment of that class of small *independent proprietors* (not cultivators merely) which makes almost without exception the happiest of communities in every part of the world. It is true, land is sold in small lots by speculators, and by those who are induced or compelled by circumstances to part with their grants; but what continual dissatisfaction must not be generated in the minds of the hard-working population of the colony, by seeing that it can only obtain in those indirect modes, and at increased prices, what their more fortunate brethren can obtain in the simplest way. This is a matter it would be well that government should re-consider. Both classes are at present dissatisfied; the one, that through the undue price of land the stream of immigration has been nearly stopped; the other, that unnatural obstacles are thrown in its way in pursuing a path which leads alike to individual and national prosperity. In Canada, this illiberal price and these unjust restrictions do not exist. The usual size of lots is 200 acres; but half lots are obtainable as easily as whole ones, and at prices varying from 4*s.* to 6*s.* 7*d.* per acre. So that by saving from 20*l.* to 30*l.* for the land, and as much more to commence operations, and by avoiding to rely upon the land for maintenance too soon, a man has the material before him of creating his and his family's independence; whilst in Australia the government in effect says, we will have no landed proprietors who cannot lay out 640*l.* for land to begin with!

How continually do we hear the prosperity of the United States attributed, not to their institutions, but to the opportunity afforded to their population of continual expansion over the vast extent of the public lands. Their system then answers: we adopted it in Canada, why should we depart from it in Australia? Why create difficulties by fixing artificial and high values upon land, 20*s.* per acre instead of 8*s.*; and by virtually restricting the power of purchasing to capitalists? At all events we see the effect. In the very country where the system prevails the capitalists, for whom the system was instituted, are utterly disgusted with it, and kept in perpetual anxiety by the insufficiency of labour; whilst labour itself is dissatisfied at what it conceives to be the partial interference of the system in favour of capitalists.

Here is the deliberate opinion of the Legislative Council of New South Wales: "*That the colony possesses within itself ample and superabundant resources for the importation of labour is undeniable.* These, however, have been kept in abeyance, fet-

tered, and in a great measure destroyed, either by the peculiar policy of the home government, or by the acts of the imperial legislature. For a series of years the growth of the colony was uniform, progressive, and uninterrupted. From 1833 to 1840, the sum realized by the sale of waste lands was upwards of a million; and, by the expenditure of this amount, 80,000 souls were introduced. Under this system the population became more than doubled in a period of eight years. In 1839, it was the policy of the imperial government to raise the upset minimum price of land from 5*s.* to 12*s.* and subsequently to 1*l.* an acre. This act may be regarded as one of the chief causes of the disasters with which the colony has since been visited, and of its present depressed condition. From 300,000*l.* a year [in 1836], the land revenue fell to 8,000*l.*; immigration ceased," and with it the purchases of land. "No single example, it is believed, can be quoted, in which, since the establishment of the high upset price, any capitalist has purchased land for pastoral purposes."

Thus, to cheapness of passage must be added cheapness of land, and the liberal facilities for its purchase by the humbler classes, in estimating the advantages of the North American as compared with those of the Australian colonies. But there are some other and very important considerations yet to be taken into account. It is not every one who can bear the rigours of a Canadian winter; and of those who can, there are not many who would wish to bear them as a matter of choice. The thermometer (Fahrenheit's) occasionally stands at 60° below freezing point; and the average winter temperature is very low, while the winter itself is long, including full seven months of the year. In spring the roads are nearly impassable, and one can hardly go out of doors. In summer the heat again is as intense as the winter is cold, often exceeding 100° in the shade. Musquitoes then abound. In all the more woody parts, mists and chilly winds prevail, and materially impair the natural salubrity of the climate. The Canadian winter, however, is generally very fine and bracing; and the latter part of spring and of autumn are each characterized by peculiar beauties. The climate is considered favourable to the growth of hardy fruits. Wheat, the staple grain, is obtained at the rate of from twenty-five to thirty-five bushels per acre. Oats are indifferent; barley little grown; potatoes much inferior to those of our own country. Upper or Western Canada is the most suitable emigration field for our countrymen. The population is chiefly English; the winter and summer are milder than in Eastern Canada; and the whole triangular peninsula of Canada West, situate between the three great lakes of Ontario, Erie, Huron, which forms a rich elevated plain, is said to contain twenty millions of acres of as fine land as any in the world. The recent depression of commercial affairs in England has somewhat affected our transatlantic brethren. At present, therefore, New Brunswick is, perhaps, the most eligible of the North American colonies for the labouring classes. Mr. Perley, the government emigration agent at St. John's, stated in December last, that 1000 good and healthy labourers with their

families, equal to 5000 souls, might find employment at fair wages, in the course of the present year, in that colony.

Let us now turn to the capabilities and advantages of the Australian colonies; and which are as yet (unlike the emigration fields of the United States and of our own North American colonies) little known among the people of Great Britain, though destined, we doubt not, to fill a conspicuous place among the great families of the world; and to be of especial importance to our own trade and commerce, and to our country generally, by relieving it of some of that population which is a burden at home, and may become an assistance abroad. Australia is more than twice the size of the continent of Europe; the latter at present contains some 227,000,000 of people, the former about half a million. So much for its size and territorial capacity, comprising a range of coast stretching through thirty degrees of latitude. Eastern Australia presents a climate with all the intermediate grades between that of the tropics and the south of England; a climate unequalled perhaps for salubrity in the world. There is a remarkable peculiarity involved here. The isothermal line, a line supposed to be drawn round the globe midway as regards the equal degree of heat between the two hemispheres, runs generally to the northward of the equatorial line, but, as it approaches Australia, it crosses the line at Singapore, and only emerges again into the southern hemisphere in the South Pacific Ocean eastward of New Zealand; and thus Australia possesses a temperature equal to what other countries possess seven degrees nearer the line. The practical consequences are extremely important. "In the course of a visit," said Dr. Lang, before the Lords Committee of last Session, "which I paid to the United States in the year 1840, I travelled as far to the southward as the city of Charleston in South Carolina, in 32° north latitude; and as one of our principal settlements in New South Wales, that of Hunter's River, to the northward of Sydney, is in the corresponding degree of latitude in the southern hemisphere, I was naturally led to institute a comparison between the climates of the two countries. I found, therefore, that the cold in winter is so intense, even in Charleston, that churches and other public buildings require to be warmed by artificial heat for five or six months every year. But the Australian winter is so mild, that nothing of the kind is required even at Hobart Town, eleven degrees further south than Hunter's River. The orange I found could not be grown at Charleston, but it grows magnificently at Hunter's River in Australia, and indeed several degrees further south. The cotton plant in South Carolina is an annual, being destroyed every winter by the frost, and requiring to be reproduced from the seed every spring; but in Australia it is a perennial, not requiring renewal annually, just as it is in the Brazils, in the East Indies, and in Egypt. This extraordinary mildness of the Australian winter ensures us a perpetual spring. The grass grows all the year round; no artificial food of any kind is required for any description of farm stock; and sheep and cattle can consequently be

reared in far greater numbers, and with a far smaller proportion of human labour in tending them, than in other countries less favourably situated." Speaking also of another part, the plains on the banks of the Clarence river, he says, "an almost complete realization of Fenelon's conception with reference to Calypso's isle is exhibited in the climate of the Clarence; as, without any degree of hyperbole, a perpetual spring may be said to prevail during the entire year. . . . On the whole, a four years' residence in the district has confirmed me in the opinion, that no country ever came from the hands of its Creator more eminently qualified to be the abode of a thriving and numerous population than the one of which I have been speaking." These are glowing words, but the known facts warrant their use.

Then with regard to the fecundity of stock. In New South Wales alone, with a population of 200,000 persons, there are already one-fourth as many sheep, and one-seventh as many cattle, as the whole of agricultural France, with its immense population, possesses. The export of wool in 1846 amounted to nearly sixteen and a half millions of pounds. In fact, the increase of sheep has been so much beyond the means of the proprietors to deal with in the best way, that immense numbers have been killed and boiled down for the sake of the tallow; it is said, eight or nine hundred thousand in the course of a single year. What a fact to be placed by the side of those other facts—the starving Irish, and the largely suffering English poor. The agricultural produce of Australia is of course, with such a climate, rich and various. In glancing over the reports furnished from the colonies by the different districts, we read of wheat, oats, and barley, in close juxta-position with maize and tobacco, of potatoes and onions side by side with oranges, grapes, pine-apples, melons, citrons, and lemons. In fact, grain, vegetables, fruits, and flowers, from almost all countries, find a home here, where they may flourish in all their native luxuriance. Many of our finest green-house plants are indigenous in Australia, and preserve their leaves there the winter through. The vine is receiving especial attention. A great number of varieties have been obtained from Spain, Italy, &c., and it is intended to send over a body of Germans to undertake the wine manufacture in the best way. Sir Thomas Mitchell, well known for his explorations of the interior of Australia, says he planted cuttings on about one or two acres, and in sixteen months he had a vintage which gave him four pipes of wine. The Rhine, Claret, and Constantia grapes are those chiefly cultivated at present. The Constantia give a sparkling dry wine of the colour of amber, instead of the usual sweet wine. The other sorts produce a kind of hock. The labourers are at present the chief consumers, and pay only 5*s*. a gallon for it. Nearly three hundred acres of land were under vine cultivation about the beginning of the present year. The grapes in the neighbourhood of Perth are said to be of magnificent growth. The Zante currant is also flourishing. Another valuable article for exportation is the sandal wood, which is sent to Singapore, where it is sold, and part of it carried on to China in Chinese junks.

Indigo will probably become an important article of export. Sir Thomas Mitchell says, "I entered a plain, through which we travelled the best part of the day, covered thickly with wild indigo, so high that I had to ride upon my horse to see where I was going." The mines of Australia promise to be of incalculable value. One gentleman examined before the House of Lords last session laid before the committee specimens of 20 different kinds of copper ore; one of which included 86 per cent. of copper. South Australian copper ore sells for about 20*l.* per ton on the average, whilst the produce of our home mines in Devon and Cornwall do not generally exceed 8*l.*; some eight hundred persons from these last-named counties went in the course of 1847 to Australia, to share in the prosperity there opening on their calling. Good lead has also been found, with ninety ounces of silver to the ton in it. Iron in abundance is beginning to be discovered; and, also, what promises to be an almost inexhaustible field of coal. Already, at Newcastle (fitting name!), excellent coal can be obtained at 7*s.* per ton. Lastly, in the Darling range, Dr. Van Sommer has found mercurial ores. The chief of the mines in operation is that known as the Burra Burra in South Australia; from which, in 1847, were obtained 4,351 tons of copper ore, valued at 94,263*l.* The original 5*l.* shares of this mine are now worth about 120*l.*

Nor is all this wealth in any danger of being deprived of a great part of its value by the expense of transit. Water conveyance, the cheapest, will ultimately bear off to other countries all that Australia can spare at a moderate cost. Railways in course of time will intersect the chief habitable parts of the interior, and discharge their burdens into the vessels on the coast, which is as admirable for its capacities as every other great natural feature of the continent. Thus New South Wales, from Moreton Bay to the mouth of the Glenelg River, has a coast line of 1,500 miles, and along that line are found numerous roadsteads and harbours. Already villages and towns are springing thickly up at the principal of those, which are already known, and will soon stud the whole coast with the tokens of human presence, industry, and civilization.

One thing alone retards the more rapid progress of this glorious country, so bountifully favoured by God, and that is, the absence of the people who should use and enjoy it. Give us more labour! is still the cry that every ship brings over to the Colonial Office. For want of this, they destroy their sheep to make tallow instead of preserving them for wool; for want of this, agriculture languishes where agriculture might flourish in almost unrivalled wealth; for want of this, they cannot work the mineral treasures beneath their feet. Can there be a better evidence desired, that this then is especially the country to which emigrants should go if they can? But, as Sterne wisely said, that to interest in the sufferings of captivity generally, it was best to show the iron entering into a *single* soul, so for an analogous but happier purpose may we illustrate the prospects of intending emigrants, by an example or two. Mr. D. Maclaren, the head officer of the South Australian

Company, particularized, before the Lords' Committee, the following instances:—"Mr. Giles, our manager, mentioned one person who went out as a labourer with Mr. Davenport in the year 1838; and when Mr. Giles wrote to me in February, 1847, he said this person had a farm, and had at least 2,000 bushels of wheat upon it the preceding harvest. Another that had gone with the same gentleman had at least 1,000 bushels of wheat grown on his own ground. I have here a letter from Mr. Giles of the 7th of February, 1847, in which he says, — '*Almost all the company's present tenants in the country were labourers when you left.* Chandler, the Dunns, Phipers, and some of our oldest shepherds, are now worth a good deal of money. I should say George Dunn's property (that is one I already named as having been a shepherd), if sold at an auction to-morrow, would realize at least 1,000*l.* He has three sections of land of his own. This has been made in eight years.'" And Mr. Maclaren goes on to adduce other instances to a similar effect. Let us here add, that the same gentleman shows one of the many, and probably least favourable, modes of operation by which the labourer may thus raise himself. "A hundred men are wanting by government at this juncture to go upon the roads at 20*s.* per week. From these wages a saving person could lay by at least 10*s.* per week, and feed upon the best bread and meat in the colony." Dr. Lang and Mr. Justice Therry gave similar testimony. Now let us here put in one word of "Justice to Ireland." It is certain from the concurring testimony of many witnesses in Australia, and in harmony with what we know of the United States, that the Irish character is *not* naturally idle, and that it is the unnatural circumstances that surround it in its own country that make it appear so. Mr. Justice Therry, for instance, states that Irish labourers are actually preferred in some instances; and for what? Why for "hard labour, for ploughing, and the ordinary agricultural labour." Perhaps of all the cases of emigrant success mentioned by the witnesses before recent parliamentary committees, none are more striking, or involve a deeper interest, than the instance described by Dr. Lang, in connexion with the emigration of a body of workmen. We request especial attention to it, since it involves valuable experience for future legislation, and shows one of the modes in which labour may be carried out extensively, and defray itself the cost of its own passage. In 1830 Dr. Lang came to England to seek assistance from the government for an educational establishment at Sydney. A loan of 3,500*l.* was granted. Dr. Lang then further desired that he might expend 1,500*l.* of the amount in taking back with him mechanics to erect the buildings, and from whose wages the 1,500*l.* was to be returned in weekly instalments. His suit was successful, and fifty families went out. We must tell the rest in the Doctor's own words. "Their introduction into the colony took place during the administration of Sir Richard Burke, and it was considered quite an event in the history of the colony. They were the first free men of the working classes that had ever arrived in any number

in the country. They set to work vigorously and conscientiously, contributing a portion from their wages every week, as they were able. The wages of mechanical labour at that time were about 2*l.* a week for carpenters and stonemasons. Provisions were very cheap at the time, and the mechanics continued to labour till almost the whole of them cleared off their debt, and established themselves in comfort in their adopted country. Some of them are now among the wealthiest men in the country; they have almost all done well." He adds, "that they had no capital whatever; they would even have been unable to undertake the voyage for want of clothes, or to make a decent appearance in the colony, but for the money they borrowed from friends, which they afterwards repaid."

One important advantage is afforded to small capitalists as well as others in Australia, and mitigates, in some degree, the harshness of the regulations for the sale of land. A piece of pasture land in the country districts, a run as it is called, may be leased for fourteen years for a sum of not less than 10*l.* yearly, and which is sufficient to feed 4,000 sheep, or 640 cattle, the whole year round. Prudent emigrants therefore look out with great care for a run *that is well watered*, put on it whatever stock they possess or can gradually obtain, examine every part until they have found the most valuable bit of the whole; there they build the house, lay out the garden, and cultivate what they please, for the supply of their own domestic wants (but not for sale); knowing that they can secure as little as 160 acres, at a pound an acre, in preference to any one else, at the expiration of their term; for such is the law in favour of squatters, as those wandering cultivators of the pastoral are called, and for which payments they of course prepare. If they can purchase the next size allowed to be purchased, 640 acres, and the soil be worth purchasing, so much the better. We have emphasized the words *well watered*, for that is a point of extreme consequence in Australia. Many parts are comparatively or quite valueless from deficiency of water. The rivers themselves are often intermittent; but, when flowing, generally leave numberless lakes and ponds full of water, from which there is an unfailing supply, while they themselves disappear. Sir T. Mitchell describes a very striking phenomenon caused by the drought. It is not unusual, it appears, to hear of the coming of a flood. Sir Thomas says, "We found water in the attenuated channel of the Macquarie amongst the reeds; still it was scarce, until I heard a report that a flood was coming down. Supposing that a flood travelled rapidly, I could not believe the report. They said, 'You will not see it till to-morrow evening, *the two policemen travelled with it yesterday*.' We awaited the arrival of the flood. At last, by moonlight, in the evening of the next day, I heard a crashing of logs at a distance, and suddenly it burst into our sight like a living cataract, foaming along, the most beautiful scene I ever saw, carrying trees before it, and filling up the dark and dry channel of the Macquarie, bringing water from a distance of 400 miles, where there had been a fall of rain. We

thought then there was an end to all our troubles; but in a few days after, in the same channel, we were just as badly off for water; that water had gone to fill thousands of lagoons, and never reached the channel of the river to which it was a mere tributary." These lagoons—spread over a great extent of surface—deceived Sir Thomas's official predecessor, Mr. Oxley, into the belief that the interior of New Holland was a vast lake.

Much of what we have said with regard to Australia may be applied to New Zealand, where barley and beans become perennial, where the wheat stalk grows so strong that no wind can lay it, and fifty bushels to the acre have been obtained; where the myrtle and fuchsia grow to timber trees, and radishes swell out to the size of a man's leg; where all possible facilities for the breeding of sheep exist, which sheep give forth a fine and long wool; and where coal, copper, manganese, are all abundant; where, in a word, there is every thing, again, that is required for the development of a magnificent people, but the men and women themselves. The total population is now but 107,000.

Intending emigrants, or those who have not yet arrived at that point and are only thinking of emigration, may derive from the preceding pages some general notions of the probable advantages of emigration, and of the colonies most suitable, which is all we have aimed at. Before taking any actual steps every one should make it his or her business to institute special inquiries, personally or by letter, at the chief office in London, or of the emigration agents at the different provincial ports, a list of which will be found in the 'Colonization Circular,' issued by the Colonial Land and Emigration Commissioners, and which is full of all kinds of useful information in detail, and at a price (*2d.*) that need not deter the humblest purchaser.

2. NATIONAL EMIGRATION.

How are the requisite funds to be obtained? Before we try to answer that question, let us premise that instead of the word *Emigration*, we wish we could with propriety use that of *Colonization!* but we fear there is little hope at present of that harmonious amalgamation and due proportion of members from all the truly valuable classes of society, in one great stream of transit from British to colonial shores, which can alone deserve such a title.

At present, in Great Britain an immense proportion of our population are surrounded by certain conditions of life that they must accept and make the best of; but all the artificial ties thus formed fall asunder the instant an old and thickly inhabited country is exchanged for a new and thinly inhabited one; where the great bulk of the community have the means afforded of improving their condition, and that through various paths. Thus, for instance, no intimate combination of the two great classes of society, employers and employed, is possible, for the purposes of emigration, that proceeds on the basis of the preservation of their existing relations in this country. No workman can be expected to take less than the current wages of the colony he goes to, or to give up any of the

opportunities for ceasing altogether to labour for others, that the colony affords, or ought to afford, to the industrious and frugal. On the other hand, no employers can be expected to take out capital on the faith of the services to be rendered by the men they may take with them, because they cannot permanently secure their services on any terms. Capital and labour, therefore, as well as whatever else may be needed, must find their way to the colonies through the operation of the same principle that regulates their flow elsewhere—a known demand. But Government may do much, directly and indirectly, to secure the existence in the colony of a due proportion of all the elements that can make a prosperous community. Even this, however, can only be done by the adoption of some few simple and thoroughly sound principles; for the whole subject is pregnant with difficulties and dangers. Thus, one of the chief and avowed reasons for the demand for labour raised by the large employers of Australia, is their desire to lower wages, and to make the employed more dependent upon them. They even go into descriptions and calculations showing the moral evils of a man's obtaining too high a payment for his labour. Can any government venture to send out labour for such purposes? If to be too prosperous be an evil, surely it applies to every one. If it be only an evil with uncultivated minds, then the remedy is to educate. What would be thought of analogous measures and reasoning in England directed by the Government against employers? As it is, public works have been stopped in the Australian colonies, in order that the wages of labour might not be raised by them. All this kind of interference, so opposed to the recognised rules of political economy in England, produces only jealousy, heartburnings, and loss. We find in one of the parliamentary books, the Colonial Secretary of New South Wales lamenting that the funds of the savings' bank could not be profitably invested; for, as regarded the idea of making them available for emigration, he observed that, under the circumstances of the case, he could not feel justified in using the savings of the working classes to lessen the value of their own labour. In fact, there can be but one broad rule observed that shall prevent the imputation of partiality, and give all classes fair play and a full knowledge of what they have to reckon on. That is, to introduce the greatest possible amount of fresh labour for which due preparations have been made, so as to give employers the largest possible field from which to supply themselves; and at the same time to throw open to the employed every facility for the purchase of land, so that they may be really free, either to remain workers on wages for others, or after a period of extra exertion to settle on their own well-earned land. Under this system the funds for emigration would rapidly swell to a large amount; and the only other chief duties of Government would be to see that full and perfectly accurate information was always obtainable by intending emigrants, and to superintend the actual process of emigration.

We have already seen (page 109), that in the opinion of those men best qualified to judge, notwithstanding the immense capa-

cities of Australia for immigration, the resources of the colony itself, in its waste lands, are ample, nay, superabundant, if rightly used. Why then should we be placed in continual perplexity at home about the means of raising funds for emigration? Why should our own relief, the relief of our poor, and the prosperity of the colonies, be any longer retarded? These are questions that must be satisfactorily answered at no distant day. Meantime the Government has chosen rather to anticipate the revenue from land sales, &c. for some years to come, than to raise the annual revenue itself, by the recurrence to the modes adopted in most other parts of the world. It has authorized the Colonial Government of New South Wales to consent to the issue of debentures to the amount of 300,000*l.*, secured on the lands of the colony, for the purposes of emigration, having previously sanctioned the outlay of 100,000*l.* similarly raised and secured. It is in consequence of this last-named movement that emigration to Australia is again and vigorously recommencing; and will be still more vigorously continued, if, as there can be no doubt, the Colonial Legislature has taken the steps above referred to, and which will be, in effect, but carrying out the wishes of the Legislative Council of the Colony.

The sales of colonial land, however, though the best, need not be the only source. We have multitudes of able-bodied poor to maintain out of the poor rates; what objection can there be to anticipate a certain safe portion of the receipts for some years, by means of a loan, to be expended in planting those poor where they may add to our wealth by commercial production and interchange, instead of dissipating it by their requisitions during a state of enforced idleness? Of course such a loan must not exceed, and had better fall somewhat short of, the amount that the different unions would certainly have to pay on the average to a number of paupers equivalent to the number thus disposed of; so that the rate-payers should be directly benefited in the process by a reduction of their charges. If they thus see their interests cared for, they will be only the more certain to look after the interests of the country and the colonies, by doing their best to make emigration popular among the class chiefly concerned. The same principle may be applied in other directions. We have prisons for the reformation of offenders. Why should not they be sent to the colonies as soon as they could satisfy their keepers of the probability of their future good behaviour, and the emigration fund be increased by a similar anticipation of their share of the current expenses of the prison? How cheering is the result of the experiment tried in connexion with the boys from Parkhurst. During last year, some 350 were sent to Port Philip; and tidings of the fate of 300 of them were given in the last prison report, from which we learn, upon the authority of the employers of one portion, that their conduct had been every thing that could be desired; and the surgeon, who took out another portion of them, says, "the Parkhurst boys are excellent." Their reception by the colonists was as satisfactory as their behaviour in the colony. All those who went in one vessel were engaged within five days, at

wages averaging 20*l.* per annum, in addition to their rations. After all, employment, and change of scene and of connexions, with due preparatory discipline, are among the most potent influences that we can bring to bear upon our criminal class. With the wish and habit, we must remove the extreme temptations, to offend against the social laws, if we are really in earnest in our desires for the reformation and welfare of the offenders.

Another great source of funds is to be found in the adoption of the principle suggested by Dr. Lang's interesting experiment, that is, to lend to emigrants the means of making their way to the colonies, to be repaid from their earnings. Many modes might be devised of doing this safely and effectively. We venture to suggest one in brief detail. Let such debts be recoverable before all others, summarily, if need be, and for any length of time. Before it be paid, let the debtor be incapable of receiving any land licenses or grants from Government. On the other hand, give him a powerful incentive by declaring, that as soon as the debt is paid, he shall receive land for the amount, on the same terms as any other purchaser. Thus he will feel, that every shilling he pays as "debt," is really only an investment in the best of all banks; and the colony and imperial government will have accomplished their object of making the land pay for the passage of the labour it requires. Even under the present prices this system would, we think, work well, because men in receiving such advantages would not look so narrowly at the charges for the land, as those who are merely customers and incur no obligation.

In whose favour should the fund be used? We think in the first place for the benefit of the United Kingdom, by relieving it of its superabundant poor; and in the second place for the benefit of the colonies, by pouring into them the labour they require. Therefore a clear distinction should be drawn between all those emigrants whom it is our interest, as a nation, to remove, and those who can put forth no such reasons for our help. To the first, the pauper and partially reformed criminal populations, give free passages; for them endeavour so to increase the emigration funds that the burdens of the country may become sensibly lightened. With them make no debts; they will have enough to do to maintain themselves and establish families, and no further exertions should be required from them. But to the other classes—say of artisans, &c., indeed to all other persons who can by their skilled labour maintain themselves at home, yet wish to go abroad—to all these offer only, but that constantly, a passage on loan, to be repaid from wages, but which, when paid, shall entitle them to the full value in land of all their payments. This is in effect a gift of land to all such persons, but unaccompanied by any of the circumstances that made the old system of free grants so objectionable. By this plan the labour must be on the soil before the soil is granted; it must also be in proportion to the extent of the soil. It may be objected that men of little capital, who could pay for their own passage, would resort to this mode of saving such an outlay. What then? The result in such cases is only that you have tempted out men of small

capital into countries where they may be of the greatest value to the community by the gift of a very small piece of land; whilst, on the other hand, but few of these men might have emigrated at all but for that temptation. Or, what is still more to the purpose, it is but the same advantage indirectly afforded to the small capitalist that is directly afforded to the large one, who may buy in England land situated in the colonies, and obtain free passage for a given amount of labour in proportion to his purchases. Here then is a mode calculated, if we mistake not, to make emigration popular among all classes of the people, and to make it very effective in ameliorating our own condition, and in developing the almost illimitable resources of our colonies.

Our present arrangements are briefly these. Agricultural labourers and others capable of labour, really working for wages, and going out with that intention, may obtain a free passage for themselves, wives, and children, to Australia, so far as the very limited funds permit. The New Zealand Company offer a similar advantage to similar persons, but receive ten times as many applications as they can accept. Persons unable to pay the whole passage money may, under certain circumstances, obtain loans, or a reduction of the charge, by means of the Society for the Promotion of Colonization at 7, Charing-cross. Lastly, persons purchasing land in Australia may obtain five free passages for each 100*l.* laid out. This is all we are at present doing as a nation to relieve ourselves, and populate our boundless colonial territories. In fact, we are now only attempting to consider the interest of the colonies, and we fear not succeeding very well in the attempt. Paupers are expressly excluded from the class of persons eligible for a free passage. This is done on the plea that the funds are from the colonies, and therefore we should only use them in forwarding the labour the colonists themselves desire. But what is this but treating the vast territories in question as the property of the handful of persons now settled there, instead of the property of the English nation and crown? A position that in words our government decidedly objects to, but which it appears to acknowledge to a great extent in act. Of course, whatever injures the colonies injures us, since if they do not prosper we cannot send out the multitudes we wish to send out, to share in their prosperity and relieve us. It is their benefit, as well as our own, that we must seek. The solution of both problems, so far as regards emigration, we believe will be found in the development of some such arrangements as those we have proposed, and which have for their object to make emigration popular in England; to provide funds large at first, and constantly increasing with, and in fact because of, the increase of emigration; and lastly, to use these funds, first for removing our pauper and partially reformed criminal population, and secondly for aiding in, or stimulating to, the removal of all others who wish to emigrate; so that the mother country and the child may each help each the other in the way it most needs help.

X.—Highest and Lowest Prices of the Principal Funds (from Nov. 1847 to Oct. 1848).

1847—8.	Bank Stock.	3 per Cent. Reduced.	3 per Cent. Consols.	3 per Cent. Annuities, 1726.	New 3½ per Cent.	New 5 per Cent.	Long Annuities, expire 1860.	Long Annuities, 30 years, exp. 1859.	Long Annuities, 30 years, exp. 1860.	India Stock.	South Sea Stock.	Exchequer Bills. £.1000.
1847: November	189	83⅞	85½	..	85⅛	..	8⅝	8¼	8¾	235	93¾	2s. pm. at 2d.
	185	81	82	..	81⅜	..	8⅛	8	8½	228	91¼	20 dis.
December	189	85⅜	86	..	86¾	..	8⅝	8⅛	8⅞	235	94½	12 pm. at 3d.
	186½	84	85½	..	85½	..	8½	8⅜	8	235	92½	2 pm.
1848: January	202	89⅞	89⅛	90⅜	90¾	114	9	8¾	8½	243	96	35 ,,
	187	84⅞	85⅞	89¼	86	108½	8⅝	8½	8⅝	227	93	12 ,,
February	202	89⅞	89⅞	87½	90¾	..	9	8⅞	8¾	245	98	41 ,,
	191	81⅜	81½	..	82⅛	..	8⅛	8⅝	8¼	230	95¾	5 ,,
March	194	82⅞	83⅜	79⅞	83¼	..	8⅞	8⅛	8½	253	89¾	35 ,,
	191	80¼	80⅝	..	82⅞	..	8⅝	8⅜	8¼	..	86	13 ,,
April	189	81	82⅝	..	82¾	104	8⅜	8¼	8½	231½	88¼	45 pm. at 2½d
	185½	78½	80	..	79½	..	8⅛	8	8¼	227	85	33 pm.
May	193	82¾	84⅜	82½	83⅞	108	8⅝	8⅜	8¾	234	92⅝	47 ,,
	189	81½	83¼	80⅛	82½	107	8⅜	8⅛	8½	229	90	30 ,,
June	193	84½	84¾	81½	85	111	8¾	8⅝	8¾	234	92⅝	41 pm. at 2d.
	189	82¼	83⅞	81	83¼	..	8¼	8⅛	..	231	90⅛	32 pm.
July	198½	89	88⅞	84	89⅛	109	9⅛	8⅞	8⅝	245	97⅛	52 ,,
	190	85	85⅞	..	85⅝	..	8⅜	8½	8⅝	239	96⅛	32 ,,
August	199	87½	87⅛	..	87¾	112	9	8⅝	8¾	243	97¼	39 ,,
	196	85¼	85⅜	..	85⅜	109	8⅝	8⅜	8⅜	238	..	21 ,,
September	198	86⅜	86¼	..	87¼	..	8⅞	8⅝	8⅝	240	95	31 ,,
	196	85⅞	85⅝	..	86½	..	8¾	8½	8½	235	..	22 ,,
October	190	84¾	86¾	84¼	85⅛	112	8½	8½	8¾	237	95¼	40 ,,
	183	83¼	84⅛	84⅛	84	108½	8¼	8⅛	8½	234	92¾	29 ,,

XI.—EUROPEAN AND OTHER POWERS, 1847.

*** At the close of 1847 the political condition of the world appeared comparatively stable. At the close of 1848, what was called "The Settlement of Europe," such as was effected in 1816, appears crumbling into utter confusion. To enable the reader to have a starting-point from which he may follow the great changes of our times, we give the following Table :—

STATES AND REIGNING PRINCES, Jan. 1, 1848.	Population.	Regular Army.
GREAT BRITAIN	27,000,000	100,790
Victoria I. *b.* May 24, 1819; *r.* June 20, 1837.		
FRANCE	34,194,875	397,396
Louis-Philippe I. *b.* October 6, 1773; *r.* King of the French, August 9, 1830.		
BELGIUM	4,092,537	90,000
Leopold I. *b.* December 16, 1790; *r.* King of the Belgians, July 21, 1831.		
NETHERLANDS	2,602,489	100,000
Frederick-William II. *b.* Dec. 6, 1792; *r.* Oct. 7, 1840.		
GERMANIC CONFEDERATION (exclusive of Austria, Prussia, and Bavaria)	9,830,000	130,000
AUSTRIA (Empire and Kingdom of Hungary)	34,922,430	381,404
Ferdinand I. *b.* April 19, 1793; *r.* March 2, 1835.		
PRUSSIA	14,028,500	121,916
Frederick-William IV. *b.* Oct. 15, 1795; *r.* June 7, 1840.		
BAVARIA	4,319,880	57,061
Louis I. *b* August 25, 1786; *r.* October 13, 1825.		
DENMARK	2,010,000	39,000
Christian VIII. *b.* Sept. 18, 1786; *r.* Dec. 3, 1839.		
SWEDEN and NORWAY	4,225,140	45,200
Oscar I. *b.* July 4, 1799; *r.* March 8, 1844.		
RUSSIA and POLAND	54,526,000	674,000
Nicholas I. *b.* July 6 (June 25) 1796; *r.* Dec. 1 (Nov. 19) 1825.		
TURKEY (Europe)	8,900,000	120,000
Asia and Africa	15,500,000	
Abdul-Medjid-Khan, *b.* April 19, 1823; *r.* July 1, 1839.		
GREECE	637,700	7,690
Otho I. *b.* June 1, 1815; *r.* May 7, 1832.		
SWITZERLAND (Confederation, 22 Cantons).	2,177,485	64,019
SARDINIA	4,650,368	25,000
Charles Albert, *b.* October 2, 1798; *r.* April 27, 1831.		
ROMAN STATES	2,800,000	14,680
Pius IX. *b.* June 13, 1792; *r.* June 16, 1846.		
TWO SICILIES	8,400,000	60,000
Ferdinand II. *b.* 1810; *r.* November 8, 1830.		
TUSCANY (Grand Duchy)	1,436,785	5,500
Leopold II. *b.* October 3, 1797; *r.* June 18, 1824.		
SPAIN	13,000,000	119,000
Isabella II. *b.* October 10, 1830; *r.* September 29, 1833.		
PORTUGAL	3,224,174	26,418
Donna Maria II. *b.* April 4, 1819; *r.* May 2, 1826, by abdication of Don Pedro I.		
UNITED STATES OF NORTH AMERICA (republic)	18,980,650	12,517
Mr. Polk, President, March 11, 1845.		
BRAZIL (Empire)	4,500,000	21,974
Don Pedro II. *b.* December 2, 1825; *r.* April 7, 1831.		
MEXICO	7,500,000	22,750
GUATEMALA	1,650,000	3,500
LOWER PERU	500,000	7,500
UPPER PERU or BOLIVIA	850,000	
CHILI	1,400,000	8,000
UNITED STATES OF THE RIO DE LA PLATA	700,000	10,000
URUGUAY	70,000	
HAYTI	800,000	45,000

PART II.

XII.—THE LEGISLATION, STATISTICS, PUBLIC IMPROVEMENTS, AND CHRONICLE OF 1848.

ABSTRACTS OF IMPORTANT PUBLIC ACTS

PASSED IN THE FIRST SESSION OF THE FIFTEENTH PARLIAMENT OF GREAT BRITAIN AND IRELAND.

CRIME AND OUTRAGE (IRELAND).

[11 Victoriæ, cap. 2.—Dec. 20, 1847.]

An Act for the better Prevention of Crime and Outrage in certain Parts of Ireland, until December 1, 1849, *and to the end of the next Session of Parliament.*

The 1st section of this Act empowers the Lord Lieutenant of Ireland (or other chief governor or governors of Ireland), with the advice of the Privy Council of Ireland, to apply the provisions of this Act to any part of Ireland specified in a proclamation, which is to be published in the Dublin Gazette, from the day named therein; and, at his discretion, to revoke the same as to the whole or any part of the district so proclaimed, the revocation to be also published in the Dublin Gazette.

Copies of the proclamation (§ 2) are to be posted on the doors of all places of public worship, of police stations, and of barracks within the district, with an abstract of the provisions of the Act at the foot of the same.

§§ 3, 4, and 5, empower the Lord Lieutenant to increase the number of the Constabulary Force within the proclaimed district, and also to withdraw them; the Act of 6 and 7 Will. IV. cap. 13, "to consolidate the Laws relating to the Constabulary Force of Ireland," to apply to the additional force so appointed; and to appoint an additional number of reserve constables, not exceeding two inspectors, four head constables, and two hundred constables or sub-constables. The expenses of such constables (§ 6), when absent from their residences, to be advanced out of the Consolidated Fund; but to be repaid (§ 7) by the district in such proportion as the Lord Lieutenant shall direct, and such proportion is to be levied and collected as hereafter mentioned.

The Lord Lieutenant is to cause an estimate to be made (§ 8) at the end of three months after the appointment of the additional force, and at the end of every successive three months, of the probable expenses; and when such estimates are made may issue warrants to the collectors appointed under the 6 and 7 Will. IV. cap. 116, "to consolidate and amend the Laws relating to the presentment of public money by Grand Juries in Ireland," requiring them to collect the sums mentioned in the warrant and to pay over the same to the Receiver for the Constabulary Force of Ireland, to be by him applied according to the directions of the Commissioners of the Treasury. When the proclamation shall have ceased to be in force, an account is to be made up by the receiver of the actual expense, and if the expenses exceed the amount received, the excess is to be raised by a grand jury presentment off the proclaimed district; but if the expenses are less than the amount received, the excess to be repaid to the

treasurer of the county, and the amount deducted from the next collection required from the district.

§ 9 declares that from and after the day named in the proclamation no person (except justices of peace, persons in the naval, military, coast-guard, or revenue service, in the police or constabulary force, or licensed to kill game, or licensed under this Act) to carry or have within the district, elsewhere than in his or her own dwelling-house, any fire-arms or parts of fire-arms, or any sword, cutlass, pike, or bayonet, or any bullets, gunpowder, or ammunition; any person offending against this provision to be deemed guilty of a misdemeanour, and on conviction to be liable to imprisonment with or without hard labour, for any term not exceeding two years.

By § 10 any person is empowered to apprehend any person or persons found unlawfully carrying such arms, and to deliver them as soon as may be to a police-officer, in order to their being conveyed before a justice of the peace to be dealt with according to law; and any justice or constable may cause persons suspected of carrying arms illegally to be searched, and may take away the same if found, and keep and detain them for the use of her Majesty. The Lord Lieutenant is also empowered (§ 11) to require persons in proclaimed districts, by notice in the Dublin Gazette, to deposit their arms in a place named in the notice, to be restored to the owners when the proclamation shall have ceased to be in force, in such manner as the Lord Lieutenant shall direct; and persons detaining arms after such notice to be deemed (§ 12) guilty of a misdemeanour, and to be liable on conviction to imprisonment for a term not exceeding two years, with or without hard labour. The Lord Lieutenant may also (§ 13) issue warrants, signed by the Chief or Under Secretary, to search for arms in any proclaimed districts; and § 14 empowers the constabulary to whom such warrants are entrusted to enter any house, at any time between sunrise and sunset, to execute such warrants, and in case of admittance being refused to enter by force.

The Lord Lieutenant may appoint (§ 15) by warrant under the hand of the Chief or Under Secretary, persons to grant licenses to persons in a prescribed form, to have and carry arms within a proclaimed district; but such license may be at any time revoked by the Chief or Under Secretary, by notice in the Dublin Gazette.

After the day named in the proclamation, if any murder shall have been committed or attempted, the justices are empowered (§ 16) to call upon all persons between sixteen and sixty to assist in the search, pursuit, and apprehension of the supposed offenders; and all persons refusing or neglecting so to act are to be deemed guilty of a misdemeanour, and liable to imprisonment, with or without hard labour, for any term not exceeding two years.

§ 17 applies the provisions of several previous Acts for the preservation of the public peace to the districts proclaimed under this Act.

Accessories after the fact (§ 18) to any murder or attempt to murder, may be indicted and convicted either with the principal offender, or separately, if the principals have not been convicted or taken, but no person to be tried twice for the same offence.

Prisoners under sentence (§ 19) may be removed from one prison to another in Ireland, by order of the Lord Lieutenant. No traverse of the indictment is allowed (§ 20), but the trial to proceed at the next assize, special commission, or sessions of the county in which the offence has been committed, after the person has been committed or held to bail; and the production of the Dublin Gazette (§ 21)

is to be admitted as evidence of the publication of any proclamation, warrant, order, or notice.

§ 22 limits the operation of the Act to Dec. 31, 1849, and thence to the end of the next Session of Parliament; and § 23 provides that the Act may be amended during the session.

PASSENGERS' ACT.

[11 Victoriæ, cap. 6.—March 28, 1848.]

An Act to make further provision for one year, and to the end of the then next Session of Parliament, for the Carriage of Passengers by Sea to North America.

By § 1 no ship carrying passengers, from any port in Great Britain to North America, is to carry more than one passenger for every two tons of registered tonnage, nor, whatever the tonnage, shall there be less space for each passenger, unoccupied by stores, than twelve square feet for each on the deck upon which passengers live; or thirty square feet on the orlop deck, if there is one, the master of the ship to be liable to a penalty of *5l.* for each passenger in excess. Two children under fourteen (§ 2) are to be computed as one passenger, and children under one year not to be computed at all.

No ship carrying one hundred passengers to proceed on her voyage (§ 3) without a ship's cook and a cooking apparatus for the passengers; nor without a ship's surgeon (§ 4) unless the deck on which passengers live shall allow of fourteen square feet to each passenger, in calculating which proportion (§ 5) each child above one year old shall be reckoned as a passenger. Each surgeon (§ 6) to be duly qualified by law, and not objected to by the emigration officer; and no ship to sail on her voyage without a properly supplied medicine chest (§ 7), and the surgeon to be allowed a sum fixed by the emigration officer not exceeding *20s.* for every hundred passengers to be paid by the owner of the ship; but if the emigration officer consider it impossible to procure a medical man, he may give a written permission for the ship to proceed without one.

Passengers who, in the opinion of the medical man (§ 8), are affected with any disease likely to affect the health of the other passengers may be relanded, with such members of his family as may be dependent on him or be unwilling to be separated from him; and any master proceeding to sea with any such person, to be liable to a penalty of *50l.*; the passage money (§ 9) of such person or persons to be returned by the owner or charterer of the vessel.

§ 10 empowers her Majesty, by Order in Council, to prescribe rules for preserving order, for securing ventilation, &c. on board such vessels; and the surgeon or master is to exact obedience to them (§ 11); the penalty of disobeying them (§ 12) being a fine of *2l.* or imprisonment for a term not exceeding one month, to be imposed by any justice of the peace in any part of her Majesty's dominions.

The Colonial Land and Emigration Commissioners shall prepare (§ 13) abstracts of this and other Acts relating to emigration, of which six copies shall be delivered to the master, with two copies of the Acts themselves; two copies of the abstracts are to be posted in some conspicuous part of the vessel between decks, under a penalty for neglect of the master of *40s.* for every day; and any person defacing the abstract to be liable to a similar penalty. All penalties

to be recovered (§ 14) as provided in the Act 5 and 6 Vict. cap. 107.

The bond required by the aforesaid Act (§ 15), in respect of ships carrying more than fifty passengers, is to be security also for the fulfilment of the provisions of the Act 10 and 11 Vict. cap. 103, and of this Act.

The duties of the emigration officer (§ 16) may be performed by his assistant.

The term "passenger" (§ 17) is not to include cabin passengers; the rest of the clause is the common interpretation clause. Ships carrying less than one passenger to each twenty-five tons of burden (§ 18) are exempted; but in any action under this Act, the burden of proof as to the proportion of tonnage to passengers to lie on the defendant. It is sufficient (§ 19) to cite this Act by the title of the "North American Passengers Act;" and it is limited (§ 20) to one year from the time of passing, and to the end of the then next Session of Parliament.

COMMONS' INCLOSURE.

[11 and 12 Victoriæ, cap. 27.—July 22, 1848.]

An Act to authorize the Inclosure of certain Lands, in pursuance of the Third, and also of a Special Report of the Inclosure Commissioners for England and Wales.

This is one of the annual inclosure Acts of the Session; it authorizes the inclosure of the commons of the following forty-two places, arranged under their counties:—

Berkshire — Bagley Wood, Burghfield. *Buckinghamshire* — Great Missenden. *Cambridgeshire* — Benwick, Caldecot Open Fields. *Carmarthenshire*—the Grange Common. *Cheshire*—Antrobus, Mottram, St. Andrew. *Cornwall*—St. Stephen's Down. *Derbyshire*—Tansley Common. *Devonshire*—Cookbury Moor, Galsworthy Moor, Ilton Moor. *Hampshire* — Ellisfield Common. *Huntingdonshire* — Upwood and Ramsey. *Kent* — Lyminge. *Lancashire* — Hesketh Marsh. *Lincolnshire* — Corringham and Springthorpe. *Montgomeryshire* — Church Stoke and Hardley. *Montgomeryshire and Shropshire* — Hyssington. *Nottinghamshire* — Moorhouse. *Oxfordshire* — Chinnor, Warborough. *Shropshire* — Oreton Common. *Somersetshire* — Dulverton, Ison Common, Stoke Pero, Winsford. *Staffordshire* — Kingsley. *Suffolk* — Barrow, East Green, Hessett, Monk Soham, Woolpit. *Surrey*—Burstow, Shellwood Manor Waste. *Sussex*—Boxgrove, East Lavant, Mid Lavant. *Westmorland*—Asby Mask, Smardale Fell. *Yorkshire*—Egton, Thornton Moor.

GAME CERTIFICATES FOR KILLING HARES.

[11 and 12 Victoriæ, cap. 29.—July 22, 1848.]

An Act to enable Persons having a right to kill Hares in England and Wales to do so, by themselves or persons authorized by them, without being required to take out a Game Certificate.

By this Act, which recites the titles of some preceding Acts, it is declared by § 1 that it shall be lawful for persons in the actual occupation of inclosed ground, or for any owner thereof who has the

right of killing game thereon, by himself or by any person directed or authorized by him in writing, according to a form given in a schedule or to a like effect, to take, kill, or destroy any hare then being in or upon any such inclosed lands, without taking out a game certificate. The deputed authority to be limited (§ 2) to one person at the same time in any one parish, which authority is to be sent to the clerk of the petty sessions, who shall register the same, and which shall be held good till the 1st of February in the following year, unless previously revoked, of which revocation notice must be given. Persons authorized under this Act (§ 3) to kill hares are not to be liable to the tax on game-keepers. After the passing of this Act (§ 4) any person may join in hunting or coursing of hares, without a game certificate; but it does not extend (§ 5) to the laying of poison for them, or to the shooting of hares at night. Agreements reserving the game (§ 6) are to be still in force. The Act extends to England and Wales only.

GAME CERTIFICATES FOR KILLING HARES (SCOTLAND).

[10 and 11 Victoriæ, cap. 30.—July 22, 1848.]

An Act to enable all Persons having a right to kill Hares in Scotland to do so themselves or by Persons authorized by them, without being required to take out a Game Certificate.

This Act, with a few necessary modifications, is to the same effect as the preceding Act for England and Wales.

ADMINISTRATION OF CRIMINAL AFFAIRS.

[11 and 12 Victoriæ, cap. 46.—Aug. 14, 1848.]

An Act for the Removal of Defects in the Administration of Criminal Justice.

The 1st clause provides that, from the passing of this Act, any accessories before the fact to any felony may be indicted, tried, convicted, and punished in all respects as if he were a principal felon. § 2 provides that accessories after the fact to felony may be tried either together with the principal felon, or after the conviction of such felon, or may be indicted and convicted of a substantive felony whether the principal felon shall or shall not have been convicted, or shall or shall not be amenable to justice. In every indictment (§ 3) after the passing of this Act, for feloniously stealing property, a count shall be added for feloniously receiving the property knowing it to be stolen, and the jury may find a verdict of guilty upon either count. The court is empowered to direct indictments which may vary from writings or documents produced in evidence to be amended, as in cases of misdemeanour. § 5 limits the Act to England and Wales.

RUM DUTIES.

[11 and 12 Victoriæ, cap. 60.—Aug. 14, 1848.]

After alluding to the Act of last session, cap. 23, it is declared that, from the passing of this Act, the duty shall be, instead of the duty therein declared, for any spirits or strong waters, the produce of

any British possession in America, not being sweetened spirits, or spirits mixed with any article so that the degree of strength thereof cannot be exactly ascertained by such hydrometer:—

			s.	d.
If imported into	England,	the gallon .	8	2
,,	Scotland	,, .	4	0
,,	Ireland	,, .	3	0

Rum, the produce of any British possession within the limits of the East India Company's charter, not being sweetened spirits, or spirits so mixed as aforesaid, in regard to which the conditions of the Act of the fourth year of the reign of Queen Victoria, cap. 8, have or shall have been fulfilled:—

			s.	d.
If imported into	England,	the gallon .	8	2
,,	Scotland	,, .	4	0
,,	Ireland	,, .	3	0

Rum Shrub, however sweetened, the produce of and imported from such possessions, in regard to which the conditions of the Act of the fourth year of the reign of Queen Victoria, cap. 8, have or shall have been fulfilled, or the produce of and imported from any British possession in America:—

			s.	d.
If imported into	England,	the gallon .	8	2
,,	Scotland	,, .	4	0
,,	Ireland	,, .	3	0

The duty to be levied and applied by the Commissioners of Customs, as provided for in previous Acts.

HEALTH OF TOWNS.

[11 and 12 Victoriæ, cap. 63.—Aug. 31, 1848.]

An Act for promoting the Public Health.

The 1st clause of this Act provides that it may be applied, in the manner hereinafter directed, to any part of England or Wales except the city of London, the city of Westminster, and those metropolitan districts under the jurisdiction of the Commissioners of Sewers and of the Commissioners for watching, lighting, &c. the Regent's Park. § 2 is the interpretation clause; and § 3 declares the title of the Act —"The Public Health Act, 1848."

§ 4 appoints the "General Board of Health," to consist of the First Commissioner of the Woods and Forests as president, and two other persons to be appointed at her Majesty's pleasure [Lord Ashley and Wm. Chadwick have been named], but only for five years from the day of passing this Act. The secretary, clerks, &c. are to be appointed by the Board (§ 5) subject to the approval of the Treasury; as are also (§ 6) the inspectors. The salaries (§ 7) are to be named by the Treasury, but only one member of the board to be paid. All other officers are to be paid, but the superintending inspectors are never to receive more than three guineas per day, with reasonable travelling expenses.

On the petition (§ 8) of one-tenth of the poor-rate payers, or when the deaths in any city, town, or place having a defined boundary, shall appear upon the Registrar General's returns to be above twenty-three in a thousand, on an average of seven years, the Board

may direct a superintending inspector to make public inquiry as to the sewerage, drainage, water-supply, burial grounds, so as to enable the Board to make a report or issue a provisional order. Before commencing the inquiry (§ 9) the superintending inspector is to give fourteen days' public notice of his intention to make such inquiry, and to fix a time and place at which he will be prepared to hear all persons desirous of giving evidence: on the completion of his inquiry he is to make his report to the general board, who may, if it think the boundaries of the city, town, or place not the most fitting for the purposes of the Act, direct him to make a further inquiry and report as to the boundaries, or such other matters as it requires. These reports are to be published in the districts to which they apply, and copies for public inspection are to be deposited with the town clerk, clerk to the justices, clerk of the board of guardians, and with the clerk to any board administering any local Act for sanitary purposes; such reports to be open to public inspection at all reasonable and legal times, under a penalty for refusal of *5l.*

If after the inquiry (§ 10), it should appear to the General Board expedient to apply this Act to any city, town, or place, for which there is no local Act for paving, lighting, cleansing, supplying with water, or improving, her Majesty may, by Order in Council, order this Act or any part thereof to be put in force; but where it shall be deemed expedient to put this Act in force in places where there is a local Act, or to include districts to which the local Act does not apply, or any town, borough, or place, having a local Act, the said Privy Council may make a provisional order, to be afterwards sanctioned by Parliament, such provisional order to be deposited with the town clerk of any corporate place affected thereby, and with the clerk of any commissioners or trustees under any such local Act, and such provisional order is not to have effect, beyond inquiry, until sanctioned by Parliament: no such provisional order to be made where any local Act for supplying water by a company for their own profit exists, without their consent being first obtained, nor where there is a corporation without the consent of the corporation except for the purposes of main sewerage, but no parts beyond the boundaries of a corporate borough, except for the purposes of main sewerage, shall be included, except upon the petition of a majority of the owners of property qualified to vote in the election of members of a local board of health. The cost of the preliminary inquiry (§ 11), with the consent of the Treasury, may become a charge upon the general district rates, to be paid by annual instalments, with interest at the rate of *5l.* per cent., at a yearly rate of not less than five per cent.

Where a district (§ 12) consists exclusively of the whole of a corporate borough, the mayor, aldermen, and burgesses in council, shall be the local board of health; but where the district consists of two or more boroughs or parts of boroughs, the mayors of such boroughs and such number of other persons as shall be fixed by the provisional order are to be selected by each of such councils out of their own number, and with such number of persons as shall be elected as hereafter-mentioned from the non-corporate parts, shall be the local board for the district.

In every district (§ 13) comprising no part of a corporate borough, and being a district to which this Act may be applied by Order in Council, this local board shall consist of a certain number of properly qualified persons elected by owners and rate-payers; the number elected is to be fixed by Order in Council; the day of election is also to be fixed by Order in Council, and one-third of the total number

are to go out of office yearly (the order in which the first-elected are to go out of office is to be settled by the local board), and afterwards the third part is to be elected annually, so that each will be in office for three years. The number of members to be elected as aforesaid (§ 14), is to be fixed by Order in Council or provisional order, with due regard to the size and circumstances of each district. Any member going out of office or resigning, if duly qualified, may be again elected. Such persons as may be both elected and selected shall, within three days, declare in which respect they will serve; but where a borough or part of a borough is included only for the purposes of sewerage, in any district which may be formed into a district for other purposes of this Act, such sewerage district shall constitute a separate and distinct board.

Every person elected as aforesaid (§ 16) shall be resident at the time of his election, and during his continuance in office, within the district or part for which he is elected or within seven miles of it; and he shall be seised of real property or be rated for the relief of the poor to such an amount in either case as may be determined by Order of Council or provisional order, provided that the property qualification demanded do not exceed the possession of 1000*l.* or the rated value of 30*l.* The same property shall not qualify owner and occupier at the same time. No person, elected or selected, (§ 17) can act until he has signed a declaration, given in the Act, as to property or rating; a false declaration to be punished as a misdemeanour.

Any person elected (§ 18), except town councillors, who shall neglect to make such declaration for three months, or who shall absent himself for three months from all meetings and committees of the local board, shall cease to be a member. § 19 contains a list of disqualifications; bankrupts, insolvents, and disqualified persons acting are liable to a penalty of 50*l.*

Rate-payers and owners (§ 20) shall be entitled to vote for members of local boards for their districts, on the following scale:—Property rated at less than 50*l.* a year, to entitle to one vote; if at 50*l.* and under 100*l.*, two votes; if at 100*l.* and under 150*l.*, three votes; if at 250*l.* or above, six votes; a person at the same time owner and actual occupier may vote on both qualifications. A rate-payer under this Act (§ 21) must have been rated for a whole year preceding the day of voting; all rates must have been paid, except such as shall have been made or become due within six months preceding; for corporate or joint-stock property votes may be given by proxy.

At every election by owners or occupiers, the chairman of the local board shall preside; and at the first election the person to be named by the provisional order, the overseers, or other officers (§ 22), are to produce the parochial books, where necessary for the purposes of the election, and lists of voters are to be made if deemed necessary. Notices of the election (§ 23) are to be issued previously to the election. Any voter (§ 24) may nominate for the office of member of a local board himself, if duly qualified, or any other person or persons qualified, not exceeding the number to be elected; the paper must be signed by the person nominating, and sent to the chairman.

The mode of voting (§ 25) and the collecting of votes and examination (§§ 26 and 27) are precisely the same as for guardians of the poor. Persons conducting the elections (§ 28) neglecting to comply with the provisions of this Act are liable to a penalty not exceeding 50*l.* for every offence; but defects in the mode of election (§ 29) are

not to invalidate the proceedings, and the expenses attending them (§ 30) are to be defrayed out of the general district rates.

For Oxford and Cambridge (§ 31) the local board of health is to consist of the Oxford and Cambridge Improvement Commissioners; and in other cases (§ 32) where Commissioners or trustees under any local Act are appointed a board of health by a provisional order, it shall legally apply and exercise all the powers given to local boards by this Act; and if subsequently (§ 33) such district shall become or be comprised within a corporate borough, the town council shall then become the local board of health.

Local boards (§ 34) in non-corporate districts shall hold business meetings at convenient times, at least once a month, and shall make bye-laws with respect to meetings and other business matters; but no business matters to be transacted unless one-third of the members be present, except at Oxford and Cambridge, where seven members shall form a board. All questions are to be decided by a majority of votes, and the names registered. The board shall elect a chairman for one year, at their annual meeting, who shall have a casting vote. The local boards (§ 35) are empowered to appoint and maintain the necessary officers, and non-corporate districts are to cause a seal to be made, which is to be affixed to all documents, which are also to be signed by five or more members, and the said seal is to be received as *prima facie* evidence of the authenticity of such document in all courts of law, &c.; and the local board is also empowered (§ 36) to appoint a committee for the management of the business, but the acts of such committee must be submitted to the board for approval.

The local board are empowered (§ 37) to appoint a surveyor, inspector of nuisances, clerk, treasurer, and such collectors and other officers as may be necessary, and pay to them such salaries or allowances out of the general district rates as the board may think proper. The offices of surveyor and inspector of nuisances may be held by the same person, but the clerk may not be treasurer, nor may his partner, nor any one in his employ; any offence against this provision incurs a penalty of 100*l.* Any officer taking any fee or reward beyond his proper salary or allowances is incapacitated (§ 38) from continuing in or holding any office under the local board, and incurs a penalty of 50*l.*

All servants or officers of local boards (§ 39) entrusted with money shall give sufficient security, and duly account for the same; rates collected must be paid over to the treasurer within seven days, together with all accounts and vouchers, and failing so to do, for five days after they are demanded, the officer may be summoned before two justices, and committed to gaol, without bail, until account is rendered.

The local board (§ 40) is to appoint "a legally qualified medical practitioner or a member of the medical profession," to be the officer of health; he may be the officer of health for two or more districts, and such salary or other remuneration paid to him out of the general district rates, as the local board or boards may direct.

The local boards may (§ 41) cause district maps to be prepared, showing the system of sewerage for effectually draining the district, upon a scale to be prescribed by the General Board; such map to be kept at the office of the local board, and to be open to the inspection of the rate-payers; the expense of surveys, maps and plans so prepared (§ 42) to be defrayed out of the general district rates levied under this Act.

All public and main sewers and drains (§ 43) with all their works and materials, are vested in the local boards; and they are empowered (§ 44) to purchase the rights and powers vested in any person for making sewers, or contract for the use of the same. They are also (§ 45) to repair and maintain all sewers vested in them, and shall cause to be made such main sewers and drains as are necessary for effectual drainage of the district through or under any lands whatever, after giving notice; and they may stop up or discontinue any sewer, provided it is so done as not to create a nuisance to any person; and they are to cause to be cleansed and emptied (§ 46) all sewers and drains belonging to them, and construct such reservoirs, sluices, engines, &c. as may be needful. Persons making sewers to communicate with those under the management of the board (§ 47) or constructing vaults or cellars under any street, without written consent, are to be fined 5*l.*, and 2*l.* a day for continuing the same; and the work may be pulled down or altered, and the cost charged to the offender, to be recoverable by summary process. Owners or occupiers of premises (§ 48) not within the district, may avail themselves of the sewers upon such terms as shall be agreed upon between them and the local board.

§ 49 enacts, "that it shall not be lawful newly to erect any house, or to rebuild any house which may have been pulled down to or below the floor commonly called the ground-floor, or to occupy any house so newly erected or rebuilt, unless and until a covered drain or drains be constructed, of such size and materials, and at such level, and with such fall, as upon the report of the surveyor shall appear to be necessary and sufficient for the proper and effectual drainage of the same and its appurtenances; and if the sea, or a sewer of the local board of health, or a sewer which they are entitled to use, be within 100 feet of any part of the site of the house to be built or rebuilt, the drain or drains so to be constructed shall lead from and communicate with such one of those means of drainage as the said local board shall direct, or if no such means of drainage be within that distance, then the last-mentioned drain or drains shall communicate with and be emptied into such covered cesspool or other place, not being under any house, and not being within such distance from any house, as the said local board shall direct; and whosoever erects or rebuilds any house or constructs any drain contrary to this enactment, shall be liable for every such offence to a penalty not exceeding 50*l.* which may be recovered by any person, with full costs of suit by action of debt; and if at any time, upon the report of the surveyor, it appear to the said local board that any house, whether built before or after the time when this Act is applied to the district in which it is situate, is without any drain, or without such a drain or drains communicating with the sea or a sewer as is or are sufficient for the proper and effectual drainage of the same and its appurtenances, and if the sea, or a sewer of the said local board, or a sewer which they are entitled to use, be within 100 feet of any part of such house, they shall cause notice in writing to be given to the owner or occupier of such house, requiring him forthwith, or within such reasonable time as shall be specified therein, to construct and lay down, in connexion with such house and one of those means of drainage, one or more covered drain or drains, of such materials and size, at such level, and with such fall, as upon the last-mentioned report shall appear to be necessary; and if such notice be not complied with, the said local board may, if they shall think fit, do the works mentioned or referred to therein, and the expenses incurred by

them in so doing shall be recoverable by them from the owner in a summary manner, or by order of the said local board, shall be declared to be private improvement expenses, and be recoverable as such in manner hereinafter provided."

By § 50 it is enacted, "that if it shall appear to a majority of not less than three-fifths of the rated inhabitants of any parish or place containing less than 2000 inhabitants on the then last census, in which this Act shall not have been applied by order in council or provisional order as aforesaid, assembled at a public meeting to be called as is hereinafter provided, that it would contribute to the health and convenience of the inhabitants that any pond, pool, open ditch, sewer, drain or place containing or used for the collection of any drainage, filth, water, matter, or thing of an offensive nature, or likely to be prejudicial to health, should be drained, cleansed, covered, or filled up, or that a sewer should be made or improved, a well dug, or a pump provided, for the public use of the inhabitants, the churchwardens and overseers of such parish or place shall procure a plan and an estimate of the cost of executing such works, or any of them, and shall lay the same before another public meeting of such rated inhabitants, to be called as is hereinafter provided; and if the same shall be approved and sanctioned by a majority of the rated inhabitants assembled at such last-mentioned meeting, such churchwardens and overseers shall cause the works in respect of which such estimate shall have been made and sanctioned as aforesaid to be executed, and shall pay the cost thereof out of the poor rates of such parish or place: provided always, that notice of every such meeting shall be given by such churchwardens and overseers as is by this Act directed to be given by superintending inspectors, before proceeding upon inquiries previously to the application of this Act, and every such notice shall also contain a statement of the works proposed or intended to be submitted for consideration and approval."

No house (§ 51) to be built or rebuilt without a sufficient water-closet or privy, and an ash-pit, furnished with proper doors and coverings, under a penalty not exceeding 20*l.* for neglect of the law. In existing houses, where there are not sufficient conveniences, the local board shall give notice to the owner or occupier, and if within reasonable time the proper conveniences be not constructed, the local board may execute the same and charge the cost.

All places of manufacture, trade, or business (§ 52) where above twenty persons of both sexes are employed at the same time, shall be provided, where it is deemed necessary by the local board, upon giving notice to the owner or occupier, with separate water-closets or privies for the use of each sex. Penalty for neglect 20*l.* and 2*l.* a-day during time of default.

Before the building or re-building of any house (§ 53) fourteen days' notice must be given to the local board; and proper plans and sections, showing drains, privies, &c. must be lodged, and the approval of the board obtained. If the local board do not decide in fourteen days after notice, the building may be proceeded with; but a breach of the law is punishable by a penalty of 50*l.* and by the pulling down of the erection, and charging the cost to the offender. The local board is also empowered (§ 54) to provide that no drains, privies, cesspools, or ash-pits become a nuisance; and upon the written application of any person complaining of any such nuisance, it may after 24 hours' notice in writing, or in cases of emergency without notice, enter upon the premises, and examine the same, the cost to be defrayed by the local board if found to be in proper order, but if

such drains, cesspools, ash-pits, &c. are found to require alteration and amendment, it is to give notice to the owner or occupier, requiring him to do the necessary works in a reasonable time, under a penalty of 10*s.* a day for each day in which he continues to make default, and the local board may then execute the same, and recover the expense in the manner hereafter provided.

The local board (§ 55) shall, at all convenient and proper times, cause a thorough surface cleaning and watering of all streets, &c.; and it may make bye-laws for the removal of all dust, soil, and other refuse from or about houses, stables, cowhouses, &c. and for preventing accumulations of such matters, and also for cleansing and emptying of water-closets, cesspools, &c. It is also (§ 56) to provide places for the deposit of all such dust, soil, and other refuse, the property in which shall be vested in and disposed of by the local boards, and the proceeds carried to the district fund account; any one collecting or removing such refuse without their consent to be liable to a penalty not exceeding 40*s.* for each offence.

The local board (§ 57) shall provide public water-closets, privies, and other conveniences in proper situations, and charge the cost to the district rates.

The local board (§ 58) shall cause to be drained, cleansed, covered, or filled up, all ponds, pools, open ditches, drains, and places containing or used for the collecting of any drainage, filth, water, matter, or thing of an offensive nature, as likely to be injurious to health; a written notice is to be given to every person causing such nuisance, requiring him to remove the same, and if not complied with, the local board may execute the same, and recover the expenses as provided.

The local board (§ 59) may serve notice of nuisance on any person keeping swine in a dwelling-house, or in any other way so as to occasion nuisance, or who permits water to accumulate in any cellar or place within a house, or who permits any soakage or overflow from any water-closet or privy. Penalty not exceeding 40*s.* with 5*s.* a day for every day during which the nuisance is permitted to endure; and if not abated in a reasonable time the board to effect the same, and recover the costs; and if the inspector of nuisances certify the accumulation of manure, soil, or filth, so as to be a nuisance, the board may cause the same to be removed after twenty-fours' notice, and dispose of the same, carrying the proceeds to the district funds.

Any house, or part of a house (§ 60) which is certified to the local board by an officer of health, or by any two medical practitioners, to be in a filthy or unwholesome condition, and tending to produce disease, may be ordered by the local board to be purified or whitewashed, on written notice to the owner or occupier; and in default, after the specified time, the offender shall be liable to a penalty not exceeding 10*s.* a day, and the local board may cause the necessary purification to be made, and the costs recovered from the owner or occupier.

All slaughter-houses and knacker's yards (§ 61) shall be registered by the owner or occupier, in a book kept by the local Board, within three months after the application of this Act, or within three months of the time of use, under a penalty not exceeding £5., and 10*s.* for every day after notice from the local board. The local boards may provide public slaughter-houses, and make bye-laws for their regulation; but so as not to affect the rights of persons incorporated by any local act for the maintenance of slaughter-houses for the accommodation of any place. The inspector of nuisances (§ 63) may enter and inspect any place where butcher's meat is slaughtered or sold;

or where game, poultry, or fish is sold; and may examine their contents, and seize all meat, poultry, game, flesh, or fish, unfit for food; and any justice may cause the same to be destroyed, or kept from being sold as food, as he may see fit, after receiving evidence from some competent person; and the individual in whose custody unsound meat, poultry, game, or fish is found, shall be liable to a penalty not exceeding £10 for every separate piece so found. All offensive trades (§ 64) newly established in any place after this act is applied to the district, are to be subject to the local regulations and bye-laws of the local board of health; but nothing in this act (§ 65) is to affect the present law as to nuisances, or to exempt any person from his present liability.

Every common lodging-house (§ 66) must be entered on a register kept by the local board, which shall make regulations and bye-laws for fixing the number of lodgers, and for proper cleanliness and ventilation. Officers to have access to visit them at seasonable hours, on producing a written order from the local board; and they may introduce, on the same authority, any disinfecting process where necessary, the expenses of which are to be recoverable by summary process: refusal to subject parties to £2 penalty. Neglect of registration visited by a similar penalty.

No cellar, to be built or rebuilt after the passing of this act, can be let as a dwelling, and no cellar which has not been let before the passing of this Act. And no existing cellar shall be let separately as a dwelling, except it be seven feet high and have three feet of its height above the level of the street; nor unless there be an area in front, from six inches below the level of the floor to the surface of the street or ground, of at least two feet six inches in width; nor unless the same be well and effectually drained. It must also possess proper fire-place, privy, and ash-pit, with a commodious window, which will open. Any offence against this provision incurs a penalty of 20*s.* a day after notice has been given by the local board. But in cellars already occupied as dwellings, this Act is not to come into force until the expiration of one year from the passing of the Act, nor within any district that may be formed until the expiration of six months. The churchwardens are to give public notice of the provisions of this Act, relating to the letting and occupation of cellars.

All present or future streets and highways (§ 68), with the pavements, stones, and other materials, are vested in the local boards, whose duty it shall be to see that they are properly levelled, paved, flagged, channelled, and repaired, and proper defences kept for the safety of foot pessengers. The displacing or injuring any of the same incurs a penalty of 5*l.*, and a further sum of 5*s.* for every square foot of pavement taken up or injured.

Any present or future street, not being a highway (§ 69), which is not properly sewered, paved, &c., must be put in a proper state on notice being served on owners or occupiers of premises fronting or abutting on the defective parts of the street; and if the notice be not complied with, the local board may execute the works, and charge the costs upon owners.

Any street, not a highway (§ 70), which may have been paved, &c., to the satisfaction of the local board, may be adopted by the board on public notice, and repaired afterwards out of the public rates, unless the proprietor shall, within one month, object to the same.

The local board (§ 71) is empowered to require gas and water pipes to be raised, sunk, or moved, where necessary, the expense to be paid

out of the district rates; and if after notice such alteration is not made, the local board may cause the same to be effected, but so as not permanently to injure such gas or water pipes, mains, or plugs, or prevent the gas or water flowing freely as usual.

Before laying out any new street (§ 72), a month's notice must be given to the local board, with the level and width of the street, which shall be fixed by the local board, and is to be constructed of such level and width as it shall appoint; all persons contravening this clause are liable to a fine of 20*l.* a day. The local board (§ 73) may purchase such premises as may be needful for improving lines of streets; and (§ 74) the local board may purchase and keep in order walks or pleasure grounds for public recreation.

It shall be lawful (§ 75) for the board to provide a constant supply, at pressure, of pure water, for the purposes of this Act. It may therefore erect new works, in which case it may construct them so as always to supply water to the top story of any dwelling-house within their district, or it may contract with companies either for supply or lease of works, or it may purchase existing water-works, &c., with the approval of the general board; but the local board is not to construct any water-works if any company within its district is willing and able to supply water sufficient for all reasonable purposes, upon such terms as shall appear reasonable to a superintending inspector, or to an arbitrator. If, on report to the surveyor, it appear to the local board that any house is insufficiently supplied with water, and that it is possible to obtain a supply on terms not exceeding twopence a week, notice requiring the occupier to obtain such supply shall be given to him, and if this be not complied with, the local board may execute the necessary works, and levy a water-rate, not exceeding twopence a week, and charge the costs of works on the owner or occupier, as improvement expenses, to be recoverable in the usual way. The local board (§ 77) may also supply water for public baths or wash-houses, on such terms as it may mutually agree to; and it may cause (§ 78) all existing public wells, reservoirs, conduits, or pumps to be maintained, or construct new ones, for the gratuitous supply of water for the public use, or for the use of baths or wash-houses not established for private profit. Any persons injuring such works (§ 79), or diverting or wasting the water, shall for every such offence, forfeit a sum not exceeding 5*l.*, and a further penalty of 20*s.* a day whilst the offence is continued, after a written notice has been given; the penalties to be paid to the local board, or, where there is no local board, to the churchwarden in aid of the poor-rate: similar penalties to be similarly appropriated (§ 80) attach to persons causing the water to be fouled, by suffering any filthy or unwholesome matter to drain or be thrown into the same; and the proprietors of gas works causing or suffering any washing or other substance, produced in the supply or manufacture of gas, to flow into such public water, are to forfeit 200*l.* for each offence, and a further sum of 20*l.* per day for each day the offence is continued, after 24 hours' notice has been given, the penalties to be recovered, with costs, by an action for debt; where such water is fouled by the escape of gas, the penalty is 20*l.* for the offence, and 10*l.* for every day in which it is continued, after 24 hours' notice has been given.

The local board (§ 81) is empowered to provide premises for the decent reception of the dead previous to interment, and for the decent and economical interment of any corpse received therein, at such rates as it may appoint. On representation from the local board (§ 82), the general Board of Health are empowered to issue and

publish a certificate in the London Gazette and the local newspaper to the effect that any burial ground, or vaults under a church, are over-crowded with dead so as to be dangerous to health, and if sufficient means of interment exist within a convenient distance, after a time to be named in the certificate no future interment is to be permitted in them, except in specific cases, under a penalty of 20*l.*; nor shall any vault or grave (§ 83) be formed or constructed under or within the walls of any church to be erected after the passing of this Act, nor any burial ground formed within any district, except upon land purchased for the purpose before the passing of this Act, without the consent of the General Board of Health first had and obtained; and any one burying, or causing or suffering to be buried, any corpse in a vault or grave, contrary to this enactment, is liable to a penalty of 50*l.*, to be recovered by any one, with costs, in an action of debt.

§ 84 empowers the local board to purchase, rent, sell, or exchange lands or premises for the purposes of this Act.

All contracts (§ 85) where the amount exceeds 10*l.* to be in writing, sealed with the seal and signed by at least five of the members of the board, and shall specify all the particulars, and contain a penalty, in case of non-compliance with the terms, but the board may compound for penalties for breach of contract; estimates are to be made before the contract is entered into, and where the amount exceeds 100*l.*, ten days' notice is to be given and tenders for its execution to be invited.

Whenever any sewerage or other permanent work (§ 86) is constructed for the peculiar benefit of any district, or part of a district, the local board shall levy a special district rate on all premises in the district, or part of a district, so as to pay the principal with interest within such a period, not exceeding thirty years, as the local board shall determine, but reasonable deductions may be made for premises sufficiently drained previously.

The treasurer (§ 87) is to keep a separate account, to be called "The District Fund Account," and the local board may, as often as occasion may require, impose and levy a general district rate, for the purposes specified in the Act. The special and general district rates (§ 88) are to be levied on the occupiers of all property liable to poor-rates on the parochial assessment; and all lands occupied as farms, gardens, or railways, to be assessed at one-fourth of the net annual value. In any district where there is no poor-rate, the rates are to be made in the manner prescribed in 6 & 7 William IV. cap. 66; and districts exempted from rating in respect of any of the purposes for which general or special assessments are made before the passing of this Act, are to continue exempt. The rates (§ 89) may be made either prospectively or retrospectively; unoccupied premises are not to be rated; and in cases of change of ownership or occupancy, the new owner or occupier to be liable only from the time of his becoming owner or occupier; and parts of districts may be separately assessed. For private improvement expenses (§ 90) a private improvement rate, in addition to other rates, may be made and levied, so as to discharge the expenses, with interest, in a period not exceeding thirty years; and (§ 91) where the occupier is rack-rented, he may deduct three-fourths of the private improvement rate from the landlord, if not rack-rented then in proportion, and the same with landlords holding under superior landlords for any unexpired term not exceeding twenty years. The owner or occupier, however (§ 92), may redeem the improvement rate by paying the expense to the local board.

Whenever (§ 93) the local board supplies water for public use, it is empowered to levy a rate, assessed in the manner directed for the special and general district rates; but in the cases of the Oxford and Cambridge districts the supply of water to the halls and colleges shall be the subject of a special agreement. The water rate (§ 94) is to be payable, and on on non-payment of the rates the local board may stop the supply of water to the premises for which the rate is due, but this is not to exempt the occupier from any penalty to which he may be liable.

Where the annual value of premises does not exceed £10, or where they are let for shorter terms than a twelvemonth, or in separate apartments, the local board may compound with the owner for the payment of the rates, and recover them by levy of distress on the owner wherever he may be found, or on occupiers, to the amount only of the rent due by them, or the occupier may pay the rate and deduct the same from the rent. The local board is also empowered (§ 96) to reduce or remit rates on account of poverty. The Act is not (§ 97) to affect existing agreements between landlords and tenants.

An estimate is to be made (§ 98) before making the rate, showing the amount required, the property assessable, its rateable value, and the amount necessary, and this estimate is to be entered in the rate-book to be kept at the office of the local board, and to be open for public inspection. At least seven days' notice (§ 99) is to be given of the intention to make a general or district rate; any person interested in or assessed to any rate (§ 100) may inspect the same, without any charge, and take copies or extracts of the same, the person having custody of the estimate or rate to be liable to a penalty of £5 for every refusal.

If the name (§ 101) of any owner or occupier is not known, it is sufficient to designate him as 'owner' or 'occupier' of the premises in respect of which the assessment is made.

Any rate (§ 102) may be amended, by changing the name of the person rated, or by reducing or raising the rate, but persons aggrieved by the change have the same right of appeal as he has on the rate as originally made.

Rates made under this Act (§ 103) are to be published in the same manner as the poor-rates, and to be collected by such persons as the local board shall appoint; persons not paying within fourteen days after a notice in writing has been given, may be summoned before a justice, and the amount may be recovered by levy of distress, of which the form (§ 104) is given in a schedule; any constable refusing to make such levy incurs a penalty not exceeding £5. The quota to be paid by the universities of Oxford and Cambridge (§ 105) to be adjusted by the present local acts or by the General Board of Health. The production of the rate-books (§ 106) to be considered as evidence of the validity of the rates.

§ 107 enables the rates to be mortgaged, and § 108 empowers the local board to borrow money of the commissioners of public works for any of the purposes of this Act. But if the local board (§ 109) can borrow money at a lower rate of interest they may do so to pay off securities bearing a higher rate, and they may also (§ 110) borrow money to pay off mortgages. § 111 prescribes the form (given in a schedule) of mortgage, and for its register; § 112 gives (in the schedule) the form of transfer and prescribes its register; and § 113 directs the interest on mortgages to be paid half-yearly, and the

formation of a sinking fund for its redemption. Where interest and principal (§ 114) are unpaid for six months, the mortgagee may apply to two justices for the appointment of a receiver, who shall collect the whole or a competent part of the rates, until the interest and principal, with costs, are fully paid.

Bye-laws made by the local board (§ 115) are not to be in force until confirmed by the Secretary of State; the bye-laws may impose penalties not exceeding £5 for any offence, and not exceeding 40*s.* a day for the continuance of the offence; the local board also may alter and amend the bye-laws; and they must be so framed as to allow of the recovery of any sum less than the full penalty: the bye-laws must not be repugnant to the laws of England, nor to the provisions of this Act, and a month's notice must be given in the local newspapers of the intention to apply for a confirmation of them; a copy of the application to be kept during the month at the office of the local board for the inspection of the rate payers, who are to be furnished with a copy of the same by the clerk, if applied for, at the rate of sixpence for every hundred words. The bye-laws (§ 116) are to be printed, hung up in the office of the local board, and a copy furnished to any rate-payer who may apply for the same.

In the local board (§ 117) is vested the office, duties, and powers of surveyor of the highways; but persons beyond the district are not to be liable for rates for any road so made, not being a toll, but the existing surveyors may recover the rates in arrear, to be applied in discharging their own expenses and any existing debts; the surplus, if any, to be paid over to the treasurer of the district fund.

Notwithstanding the application of this Act to any district (§ 118), the existing liabilities of persons to make, repair, and maintain sewers, or walls or works for protecting the land against the encroachments of the sea, or of paving any street, is not discharged if incurred before the passing of this Act.

Mortgages of the rates (§ 119) are to be made only on the approval of the General Board.

Parties aggrieved as to the recovery of certain expenses (§ 120) by any of the proceedings of the local board, may within seven days appeal to the General Board.

During any inquiry by a superintending inspector (§ 121), he is empowered to summons persons before him, and to examine them on oath or otherwise touching any matter relating to the purposes of the inquiry; and to call upon any parochial or corporation officer to produce surveys, rate-books, or other document for the like purpose, but no one is to be required to attend unless the reasonable charges for his attendance be tendered him, nor to travel any greater distance than ten miles from his place of abode. Refusing to attend or to answer the questions put or to produce the required documents, incurs a penalty not exceeding £5.

§ 122 relates to the duties and powers of the auditors, and §§ 123 to 127 relate to those of arbitration in cases of dispute.

§§ 128 to 135 relate to the processes for the recovery of damages, costs, expenses, or penalties under this Act. For sums for which summary process may be taken, two justices may decide, and may order levies by distress, or commit to prison for terms not exceeding three months, if the costs and expenses are not paid. Penalties must be proceeded for within six months, and the sums recovered paid over to the treasurer of the district fund; but where the sum adjudged to be paid exceeds 20*s.* an appeal is allowed to the quarter session within fourteen days from the decision.

The court of quarter sessions (§ 136) is empowered to hear appeals against any rate or assessment, and to amend or quash the same, but if quashed the amounts may be levied, and taken as payments on account of the next effective rate that may be made; and no rate or proceeding (§ 137) is to be quashed for want of form, or be removed by certiorari into higher courts.

In non-corporate districts (§ 138) the local board may sue or be sued in the name of the clerk, and actions not to abate by the death or removal of the clerk.

One month's notice of action must be given (§ 139) to every officer acting under the local board before an action can be brought; such action must be commenced within six months from the accrual of the cause of action, and the venue must be laid in the county or place where the cause of action arose: tender of amends may be made and pleaded in bar, or by leave of the court the defendant may pay into court such sum as he thinks proper, and also plead the general issue. The officers of the court (§ 140) are not to be personally liable for any contract, matter, or thing done under the orders of the local board, and their legal expenses are to be paid out of the general district rate.

The orders in council and provisional orders may be amended (§ 141), and the boundaries of districts altered and extended; such orders (§ 142) to be published in the London Gazette, and to be laid before Parliament yearly, with the reports of the superintending inspectors of the districts to which they apply.

In case of the refusal of owners or occupiers of land or premises (§ 143) refusing to allow of entry thereupon for the purposes of this Act, two justices may authorize, if sufficient cause is not shown against it, an entry without the parties so entering becoming liable to an action.

Full compensation (§ 144) to be made out of the general district rate for any damage sustained by reason of the exercise of any of the powers of this Act; and in case of dispute as to the amount, the same to be settled by arbitration, or if under 20*l.* by two justices.

Sewers, flood-gates, sea defences, or other works (§ 145) under the authority of any commissioners appointed by the crown, or used for the purposes of draining or improving land under any local act, or works connected with mills or mines, or any canal or navigation belonging to private persons or companies, are not to be used for the purposes of this Act without consent first had and obtained in writing.

The local board may allow time (§ 146) to any occupier or owner for the payment of expenses incurred for which he may be liable, not to extend beyond thirty years, including the interest.

Persons guilty of false evidence on oath (§ 147) upon examination under the provisions of this Act, are liable to the penalties for wilful and corrupt perjury.

Obstructing officers in their duty (§ 148), defacing the boards with the notices and bye-laws, subjects the offender to a penalty not exceeding 5*l.*; owners or occupiers preventing the execution of works, are liable to a penalty not exceeding 5*l.* for each day such obstruction is continued; and occupiers wilfully refusing to disclose the name of the owner incurs a penalty not exceeding 5*l.*

The consent or approval of any measure (§ 149) by the General Board must be in writing under the seal and hands of not less than two of the board; and that of the local board also in writing, and under the seal and hands of not less than five of the board.

§ 150 provides for the services of notices through the post-office

upon the local board, or personally upon the clerk; and notices upon owners or occupiers may be served upon any inmate, addressed as to the 'owner' or 'occupier' without any further designation, or attached to the premises if unoccupied, and if the owner does not reside in the district, the notice may be sent by post.

Advertisements, awards, contracts, and other writings (§ 151) are exempted from stamp duty; and where a window is made in a cellar, previously occupied as a dwelling, in a house which had already seven windows, such house to remain exempt.

CRIMINAL LAW.

[11 and 12 Victoriæ, cap. 78.—Aug. 31, 1848.]

An Act for the further Amendment of the Administration of the Criminal Law.

In cases of treason, felony, or misdemeanour (§ 1), questions of law which may have arisen on the trial and conviction of any person before any court of oyer and terminer gaol delivery, or court of quarter session, may be reserved for the consideration of the judges of either bench and the barons of the exchequer, and execution or respite of judgment be accorded until such questions have been considered and decided, and the person be imprisoned or admitted to bail as the court shall direct, until the decision is obtained. The questions reserved are to be certified to the judges by the judge of the court in the usual manner (§ 2); and a quorum of judges (§ 3) not less than five, a chief judge being always one, are to deliver their judgment in open court. A case (§ 4) may be remitted back for amendment. When a writ of error is brought (§ 5) the court may reverse the judgment, and pronounce the proper judgment, or remit the same to the court below for it to pronounce. Forging or altering the certificate (§ 6) of any justice, or of the certified copy of a clerk of assize, is punishable by transportation for any term not exceeding ten years, or by imprisonment for any term not exceeding three years, with or without hard labour. The Act (§ 7) does not extend to Scotland.

PASSENGERS' ACT.

[11 and 12 Victoriæ, cap. 81.—Aug. 31, 1848.]

An Act for the further regulation of Steam Navigation, and for limiting in certain cases the Number of Passsengers to be conveyed in Steam Vessels.

The first clause alludes to the previons Act (9 & 10 Vict. cap. 100), and imposes a penalty of 10*s.* per day on the owners for delay in transmitting the certificates required by that Act. The board of trade (§ 2) may insert in the certificate the number of passengers which the vessel, to which the certificate is granted, is constructed to carry; and a penalty of not exceeding 5*s.* is imposed for every passenger exceeding the number specified. A copy (§ 3) of this certificate is to be placed in a conspicuous part of the vessel, and the neglect to do so involves a penalty on the owner not exceeding 10*l.* Any person (§ 4) having been refused admission on board a vessel on account of its being full, who shall force his way on board, or who will not leave the same on his fare being tendered him, if he

has paid the same, incurs a penalty not exceeding 5*s.*; and a similar penalty (§ 5) to the owner on refusing or neglecting to pay the fare, or for refusing to quit the vessel on arriving at the point to which he has paid his fare. Penalties (§ 6) to be recovered and applied as in the former Act. Nothing herein (§ 7) to affect the privileges of the corporation of London.

EDUCATION OF THE INFANT POOR.

[11 and 12 Victoriæ, cap. 82.—Aug. 31, 1848.]

An Act to amend the Law for the Formation of Districts for the Education of the Infant Poor.

After reciting the title of the Act (7 & 8 Vict. cap. 101), this Act (§ 1) declares "that so much of the said Act as prevents the commissioners therein-mentioned from including in any such district any parish, any part of which would be more than 15 miles from any other part of such district, and so much thereof as provides that the principal sum or sums to be raised for the purpose of providing any building or buildings for any school for any such district as aforesaid, and charged on any union, or on any parish not included in a union, shall in no case exceed one-fifth of the average annual amount of the aggregate expenditure relating to the relief of the poor within any such parish for three years ending March 25 next preceding the raising of such money, shall not apply to prevent the combination of any union, or any parish not in union, for the purposes aforesaid, nor the raising of any money for the purpose aforesaid, when the major part of the guardians of the several unions and parishes not in union proposed to be combined, shall previously thereto consent in writing to such combination."

§ 2 provides, "that certain provisions in 5 & 6 Vict. c. 57, relating to guardians, shall be extended to members of district boards formed under 7 & 8 Vict. c. 101."

ELECTORAL FRANCHISE.

[11 and 12 Victoriæ, cap. 90.—Aug. 31, 1848.]

An Act to regulate the Times of Payment of Rates and Taxes by Parliamentary Electors.

This Act, of one clause only, provides that after January 1, 1849, no person shall be required, in order to entitle him to have his name inserted in any list of voters for any city, town, or borough in England, to have paid any poor's rates or assessed taxes, except such as shall have become payable from him previously to January 5, in the same year; and that no person shall be entitled to be on any such list of voters, unless the poor's rates and assessed taxes payable from him previously to January 5, shall be paid on or before July 20 next following.

PAROCHIAL DEBT AND AUDIT.

[11 and 12 Victoriæ, cap. 91.—August 31, 1848.]

An Act to make provision for the Payment of Parish Debts, the Audit of Parochial and Union Accounts, and the allowance of certain Charges therein.

By § 1 it is provided that debts contracted by overseers within three

months of the termination of their year of office, and not discharged, shall be discharged by their successors; and debts unpaid, contracted more than three months from the termination of their office, may be paid by their successors with the consent of the rate-payers and of the Poor Law Commissioners. But bills of costs for legal proceedings (§ 2) need not be paid till the termination of them, when, after they are duly taxed, they are to be discharged within a twelvemonth, and not afterwards, unless the Poor Law Commissioners direct the same to be paid by instalments in a time not exceeding five years. Parties (§ 3) who have advanced money for the relief of the poor or in respect of matters chargeable upon the poor-rate, which may not have been allowed by the auditor, may by consent of the rate-payers and the Poor Law Commissioners be reimbursed.

§ 4 provides for an appeal to the Poor Law Commissioners against allowances, disallowances, and surcharges of auditors, who may determine on the merits of the case, and the disallowances and surcharges may be remitted, upon payment of the costs, if any, incurred by the auditor in enforcing them.

In § 5 is prescribed the proper mode of certifying as to balances due from overseers and other officers on retiring from office, and a schedule of the proper certificates is given in the end of the Act.

From the passing of this Act (§ 6) the sums paid by overseers to constables or other officers by order of any justice given in writing, are not to be disallowed by the auditor.

The auditor (§ 7) is to cause a notice, prior to his holding an audit, to be advertised in some local newspaper circulating in the union.

Where any person (§ 10) is liable to a surcharge for payments supposed to be illegally or improperly made, if not present at the audit, the auditor is to adjourn the audit for a reasonable time, and give the person notice to appear; at the adjournment he shall hear the person if present, and decide according to law and justice. § 9 sets forth what shall be required to be proved by auditors, in order to recover sums certified to be due.

§ 10 enables the auditor, upon cause being shown, to appoint a deputy.

The following Act was intended to have been added to the foregoing as a proviso, but as it was omitted by accident, it was passed as a separate Act, and is inserted here to make the matter complete.

[11 and 12 Victoriæ, cap. 114.—September 4, 1848.]

An Act to prevent District Auditors from taking Proceedings in certain Cases.

Nothing in any Act of this session is to authorize the auditor to proceed for sums in respect of which proceedings have been taken, and have been determined in any court or before any justice.

Power is given by § 11 to parishes, with consent of the vestries, to empower the overseers to enter into mutual agreement with other parishes to bear a proportion of the costs incurred in the trial of appeals involving some common principle affecting them all.

§ 12 gives power to guardians of parishes or unions appointed under local acts to grant out-door relief in the same manner as unions, formed under 4 and 5 Wm. IV. c. 76.*

* A useful explanation and analysis of these Acts, of the District Schools Act (11 and 12 Vict. c. 84) and of the Poor Law Union Charges Act (11 and 12 Vict. c. 110), has been prepared by W. G. Lumley, Esq., and published by C. Knight.

SUGAR DUTIES.

[11 and 12 Victoriæ, cap. 97.—Sept. 4, 1848.]

An Act to repeal the Duties of Customs upon the Importation of Sugar, and to impose new Duties in lieu thereof.

§ 1 repeals the Act 9 and 10 Vict. cap. 63, as far as relates to the duties on sugar and molasses, and authorizes in lieu thereof the duties to be levied according to the following scales :—

On Sugar or Molasses the Growth and Produce of any British Possession into which the Importation of Foreign Sugar is prohibited, being imported from any such possession, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851			After 5 July 1851		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Candy, brown or white, Refined Sugar, or Sugar rendered by any process equal in quality thereto	0	17	4	0	16	0	0	14	8	0	13	4
White Clayed Sugar, or Sugar rendered by any process equal in quality to white clayed, not being refined, or equal to refined	0	15	2	0	14	0	0	12	10	0	11	8
Muscovado, or any other Sugar, not being equal in quality to white clayed.....	0	13	0	0	12	0	0	11	0	0	10	0
Molasses	0	4	10	0	4	6	0	4	2	0	3	9

And from and after the respective days next hereinafter mentioned :—

On Sugar or Molasses the Growth and Produce of any other British Possession, being imported from any such possession, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851		5 July 1851 to 5 July 1852		5 July 1852 to 5 July 1853		5 July 1853 to 5 July 1854		After 5 July 1854	
	£	s.	d.	£	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Candy, Brown or White, Refined Sugar, or Sugar rendered by any process equal in quality thereto	1	2	0	1	0	4	18	8	17	0	16	4	15	4	13	4
White Clayed Sugar, or Sugar rendered by any process equal in quality to white clayed, not being refined or equal to refined	0	18	4	0	16	11	15	5	14	0	13	5	12	10	11	8
Brown Clayed Sugar, or Sugar rendered by any process equal in quality to brown clayed, and not equal to white clayed	0	17	0	0	15	8	14	4	13	0	12	5	11	10	10	0
Muscovado, or any other Sugar, not being equal in quality to brown clayed Sugar	0	15	9	0	14	6	13	3	12	0	11	6	11	0	100	
Molasses	0	5	10	0	5	5	4	11	4	6	4	4	4	2	39	

On Sugar or Molasses the Growth and Produce of any Foreign Country, and on all Sugar or Molasses not otherwise charged with Duty, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851			5 July 1851 to 5 July 1852			5 July 1852 to 5 July 1853		5 July 1853 to 5 July 1854		After 5 July 1854	
	£	s.	d.	£.	s.	d.	£	s.	d.	£	s.	d.	s.	d.	s.	d.	s.	d.
Candy, Brown or White, Refined Sugar, or Sugar rendered by any process equal in quality thereto .	1	6	8	1	4	8	1	2	8	1	0	8	19	4	17	4	13	4
White Clayed Sugar, or Sugar rendered by any process equal in quality to white clayed, not being refined or equal to refined	1	1	7	0	19	10	0	18	1	0	16	4	15	2	14	0	11	8
Brown Clayed Sugar, or Sugar rendered by any process equal in quality to brown clayed, and not equal to white clayed ..	1	0	0	0	18	6	0	17	0	0	15	6	14	6	13	0	10	0
Muscovado, or any other Sugar, not being equal in quality to brown clayed Sugar	0	18	6	0	17	0	0	15	6	0	14	0	13	0	12	0	10	0
Molasses	0	6	11	0	6	4	0	5	9	0	5	3	4	10	4	6	3	9

Bounties or Drawbacks upon the Exportation from the United Kingdom of the several Descriptions of Refined Sugar hereinafter mentioned, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851			After 5 July 1851		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Upon Refined Sugar in Loaf, complete and whole, or Lumps duly refined, having been perfectly clarified and thoroughly dried in the stove, and being of an uniform whiteness throughout, or such Sugar pounded, crushed, or broken, or Sugar Candy	0	16	4	0	15	0	0	13	9	0	12	6
Upon Bastard or Refined Sugar, broken in pieces, or being ground or powdered Sugar, or such Sugar pounded or crushed or broken	0	13	0	0	12	0	0	11	0	0	10	0

Some other regulations follow, not of any general interest.

SUGAR DUTIES.

[11 and 12 Victoriæ, cap. 97.—Sept. 4, 1848.]

An Act to repeal the Duties of Customs upon the Importation of Sugar, and to impose new Duties in lieu thereof.

§ 1 repeals the Act 9 and 10 Vict. cap. 63, as far as relates to the duties on sugar and molasses, and authorizes in lieu thereof the duties to be levied according to the following scales :—

On Sugar or Molasses the Growth and Produce of any British Possession into which the Importation of Foreign Sugar is prohibited, being imported from any such possession, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851			After 5 July 1851		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Candy, brown or white, Refined Sugar, or Sugar rendered by any process equal in quality thereto	0	17	4	0	16	0	0	14	8	0	13	4
White Clayed Sugar, or Sugar rendered by any process equal in quality to white clayed, not being refined, or equal to refined	0	15	2	0	14	0	0	12	10	0	11	8
Muscovado, or any other Sugar, not being equal in quality to white clayed	0	13	0	0	12	0	0	11	0	0	10	0
Molasses	0	4	10	0	4	6	0	4	2	0	3	9

And from and after the respective days next hereinafter mentioned :—

On Sugar or Molasses the Growth and Produce of any other British Possession, being imported from any such possession, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851		5 July 1851 to 5 July 1852		5 July 1852 to 5 July 1853		5 July 1853 to 5 July 1854		After 5 July 1854	
	£	s.	d.	£	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Candy, Brown or White, Refined Sugar, or Sugar rendered by any process equal in quality thereto	1	2	0	1	0	4	18	8	17	0	16	4	15	4	13	4
White Clayed Sugar, or Sugar rendered by any process equal in quality to white clayed, not being refined or equal to refined	0	18	4	0	16	11	15	5	14	0	13	5	12	10	11	8
Brown Clayed Sugar, or Sugar rendered by any process equal in quality to brown clayed, and not equal to white clayed	0	17	0	0	15	8	14	4	13	0	12	5	11	10	10	0
Muscovado, or any other Sugar, not being equal in quality to brown clayed Sugar	0	15	9	0	14	6	13	3	12	0	11	6	11	0	100	
Molasses	0	5	10	0	5	5	4	11	4	6	4	4	4	2	39	

On Sugar or Molasses the Growth and Produce of any Foreign Country, and on all Sugar or Molasses not otherwise charged with Duty, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851			5 July 1851 to 5 July 1852			5 July 1852 to 5 July 1853		5 July 1853 to 5 July 1854		After 5 July 1854	
	£	s.	d.	£.	s.	d.	£	s.	d.	£	s.	d.	s.	d.	s.	d.	s.	d.
Candy, Brown or White, Refined Sugar, or Sugar rendered by any process equal in quality thereto .	1	6	8	1	4	8	1	2	8	1	0	8	19	4	17	4	13	4
White Clayed Sugar, or Sugar rendered by any process equal in quality to white clayed, not being refined or equal to refined	1	1	7	0	19	10	0	18	1	0	16	4	15	2	14	0	11	8
Brown Clayed Sugar, or Sugar rendered by any process equal in quality to brown clayed, and not equal to white clayed ..	1	0	0	0	18	6	0	17	0	0	15	6	14	6	13	0	10	0
Muscovado, or any other Sugar, not being equal in quality to brown clayed Sugar	0	18	6	0	17	0	0	15	6	0	14	0	13	0	12	0	10	0
Molasses	0	6	11	0	6	4	0	5	9	0	5	3	4	10	4	6	3	9

Bounties or Drawbacks upon the Exportation from the United Kingdom of the several Descriptions of Refined Sugar hereinafter mentioned, per cwt.

	10 July 1848 to 5 July 1849			5 July 1849 to 5 July 1850			5 July 1850 to 5 July 1851			After 5 July 1851		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Upon Refined Sugar in Loaf, complete and whole, or Lumps duly refined, having been perfectly clarified and thoroughly dried in the stove, and being of an uniform whiteness throughout, or such Sugar pounded, crushed, or broken, or Sugar Candy	0	16	4	0	15	0	0	13	9	0	12	6
Upon Bastard or Refined Sugar, broken in pieces, or being ground or powdered Sugar, or such Sugar pounded or crushed or broken	0	13	0	0	12	0	0	11	0	0	10	0

Some other regulations follow, not of any general interest.

DISEASES IN CATTLE AND SHEEP.

[11 and 12 Victoriæ, caps. 105 and 107.—Sep. 4, 1848.]

An Act to prohibit the Importation of Sheep, Cattle, or other Animals, for the purpose of preventing the introduction of contagious or infectious Disorders.

An Act to prevent, until Sept. 1, 1850, *and to the end of the then Session of Parliament, the spreading of contagious or infectious Disorders among Sheep, Cattle, or other Animals.*

The first of these two Acts empowers the Government (§ 1), by Order in Council, to prohibit so long as they shall direct, either generally or from or at particular ports, the importation of cattle, sheep, horses, or other animals, for the purpose of preventing the introduction of any infectious disorder into this country; or to make regulations (§ 2) for subjecting such animals to quarantine, or for destroying hay, fodder, or other article in which contagion may be conveyed. Cattle imported or attempted to be introduced (§ 3) in contravention of such Order in Council, to be forfeited like other prohibited articles; and similar penalties to those imposed by the Custom House Acts are imposed on persons so offending. The Orders in Council (§ 4) may be revoked from time to time; and all Orders in Council (§ 5) are to be published in the London Gazette, and to be laid before Parliament.

The other Act is more particularly directed against the spreading of the disease called the Sheep Pox, of which we have treated at p. 9; and (§ 1) provides, that any infected sheep or lambs exposed for sale may be seized and destroyed by any officer of the market or fair, or any constable or police officer, who is to report such seizure to the mayor or to two justices having jurisdiction, who may cause the same to be restored, if the seizure was unnecessary, or direct them to be destroyed, together with any pens, hurdles, litter, hay, straw, or other articles likely to have been infected; and any person knowingly bringing sheep or other animals so infected to such market or fair, incurs a penalty not exceeding 20*l.* for each offence. Any person (§ 2) depasturing sheep or other animals on any uninclosed place, is also liable to a similar penalty. If any person (§ 3) expose meat for sale unfit for human food, it may be seized as before; and upon conviction, the same is to be destroyed, and the person incurs a penalty not exceeding 20*l.* The privy council are empowered (§ 4) to make orders for prohiting or regulating the removal of infected sheep, cattle, or other animals, or of the meat, skin, hides, hoofs, or other parts of them; and for purifying yards, stables, out-houses, and waggons, carts, or other vehicles, and for directing how animals dying of an infectious disorder are to be disposed of; and they may cause notices to be given of the disease, and make, alter, or revoke any regulations for the purpose of giving effect to the provisions of this Act, every offence against which incurs a penalty for each offence not exceeding 20*l.* All orders and notices (§ 5) are to be published in the London Gazette; and if they apply to a particular district in the local newspapers also, and the orders and notices are (§ 6) to be laid before parliament. Any person (§ 7) offering obstruction to the execution of the Act, is declared liable to a penalty not exceeding 5*l.* or imprisonment for a term not exceeding two calendar months. The remaining clauses (§ 8 to § 19) contain provisions for

the recovery of the penalties, but parties may appeal to the quarter sessions. § 20 limits the Act to two years; and § 21 declares the Act not to affect the rights and privileges of the city of London.

COMMONS INCLOSURE.

[11 and 12 Victoriæ, cap. 109.—Sept. 4, 1848.]

An Act to authorize the Inclosure of certain Lands in pursuance of a Special Report of the Inclosure Commissioners for England and Wales.

This is a second Act of the session for inclosures under the General Act. It authorizes the inclosure of the following 17 places:—*Berkshire*—Thatcham. *Cumberland*—Harras Moor. *Devonshire*—Ash Moor, Germans Week Common. *Hampshire*—Greatham, Newton Valence. *Middlesex*—Littleton. *Oxfordshire*—Cottisford, Standlake, Brighthampton and Hardwick. *Radnorshire*—Discoyed Hill. *Shropshire*—Hodnet Heath. *Somersetshire*—South Common. *Suffolk*—Drinkstone. *Westmorland*—Newbiggin Moor. *Wiltshire*, Winterbourn, Duntsey. *Yorkshire*—Hebden Moor, Kildwick.

POOR LAW UNION CHARGES.

[11 and 12 Victoriæ, cap. 110.—September 4, 1848.]

An Act to alter the Provisions relating to the Charges for the relief of the Poor in Unions.

By § 1 it is provided that until September 30, 1849, the costs for the relief of any wayfarer, wanderer, or foundling, as well as the cost of the burial of any such persons dying within the union, shall be defrayed from the common fund of the union [and not as heretofore, by the parish].

Poor persons (§ 2) having a fixed place of abode, who may meet with an accident or bodily casualty in any union or parish in which he has no legal settlement, are to be relieved by the officers of the parish or union in which the casualty happens; but the cost is to be reimbursed by the parish to which they belong.

Paupers (§ 3) rendered immoveable by the 9 and 10 Vict. c. 60, are to be chargeable until September 30, 1849, to the common fund of the union;* and in any question arising between parishes (§ 4) as to the cost of relief of such irremoveable paupers, the parties may jointly submit the question to the Poor Law Commissioners, who may decide upon the same, and their order, under seal, shall not be removeable by certiorari into the Queen's Bench after the lapse of the next term, nor be quashed for want of form, and when not rescinded or quashed to be final and conclusive.

The guardians of any union or parish (§ 5) may assist the emigration of poor persons rendered immoveable by the last-mentioned Act, though not settled therein, the cost to be charged on the common fund of the union. The charges imposed on the common fund to be charged (§ 6) as union expenses under the 4 and 5 Wm. IV. c. 76.

The guardians by § 7 are empowered to cause a valuation to be

* It was intended, by the Bill, to have made §§ 1 and 3 permanent, but the decision was postponed for a session. It is understood they will be brought forward to be re-enacted in 1849. (See Mr. Lumley's "Poor Law Acts introduced by Mr. Buller.") C. Knight, 1848.

made at any time of property alleged to be rateable, though a part only of the rateable property of the parish, and charge the expenses.

§ 8 enables the guardians to obtain orders of maintenance upon relations in respect of irremoveable poor, to expend money for them as overseers or churchwardens could have done, and to recover in the County Court relief advanced by way of loan on their own behalf, or on behalf of any parish, but retains the existing remedy already provided by law for the recovery of the same.

Persons chargeable upon the common fund of a union (§ 9), and convicted before any justice of any offence committed against the workhouse rules while maintained therein, may be sent to the county gaol or house of correction, and the charges to be borne by the county.

Persons professing to be wayfarers or wanderers (§ 10) are to be searched upon admission into a workhouse, and any money found upon them to be delivered to the guardians in aid of the common fund of the union; and any person applying for relief possessed of money or other property, of which on inquiry he shall not make a full and complete disclosure to the guardians or their officers, is to be deemed an idle and disorderly person, and punished accordingly.

Certificates of chargeability (§ 11) in the form prescribed in schedule C of the 7 and 8 Vict. c. 101, is to be deemed sufficient evidence before any justice or in any court, of the chargeability of any person named therein, if the contrary be not shown.

§ 12 is the interpretation clause; § 13 provides that the Act may be amended or repealed during the session.

NEWSPAPER POSTAGE.

[11 and 12 Victoriæ, cap. 117.—Sept. 4, 1848.]

An Act for rendering certain Newspapers, published in the Channel Islands and the Isle of Man, liable to Postage.

This Act empowers the Postmaster-General, with the consent of the Treasury or a Secretary of State (§ 1) to "charge any newspapers printed or published in any of the islands of Guernsey, Jersey, Alderney, Sark, and Man, and sent by the post between any of such islands and Great Britain or Ireland, or sent by the post in Great Britain or Ireland, with such rates or duties of postage as the Postmaster-General, with such consent as aforesaid, shall think fit, but not exceeding the rates or duties to which such newspapers would be liable if they were letters sent by the post; and the Postmaster-General may from time to time, with such consent as aforesaid, alter or repeal any such rates or duties of postage, and charge any such newspapers with any other rates or duties of postage, not exceeding the rates to which such newspapers would be liable if they were letters (or may exempt any such newspapers from all duties of postage), in lieu thereof, and the rates or duties of postage from time to time to become chargeable under or by virtue of this Act, shall be paid accordingly; and the monies paid to or received by the post office for such rates or duties, shall form part of the revenue of the post office." This Act (§ 2) is to be deemed a post-office Act, and the terms are to be construed as directed by the 3 and 4 Vict. cap. 96.

[These newspapers were not liable to the stamp duty, and may now elect either to pay the stamp duty or the postage.]

NUISANCES REMOVAL AND DISEASES PREVENTION.

[11 and 12 Victoriæ, cap. 123.—September 4, 1848.]

An Act to renew and amend an Act of the tenth year of her present Majesty, for the more speedy Removal of certain Nuisances, and the prevention of contagious and epidemic Diseases.

After noticing the expiry of the 9 and 10 Vict. c. 96, the first clause declares, that in England and Ireland, upon the receipt by the town council or the trustees or commissioners for drainage, sewerage, &c., or any body of like nature, of notice in writing in a form given in a schedule, signed by two or more inhabitant householders, of the filthy condition of any building, or of the existence of any nuisance arising from foul drains, privies, or ash-pits, or from the keeping of swine, or from the accumulation of dung, offal, or other refuse, or from the keeping of cattle or other animals, the said bodies shall cause an examination to be made, and if upon such examination, or by a medical certificate signed by two practitioners, it shall appear that the nuisance actually exists, they shall make, or cause to be made, a complaint before a justice, who is thereupon to issue a summons (in a form prescribed), requiring the owner or occupier of the premises to appear before two justices to answer such complaint; and if at the time and place appointed, the justice of the complaint be proved, the justices shall order such measures as may be necessary to remedy or remove the nuisance; or in case of non-appearance, may make an order (in a form prescribed) for the same within a limited time, not being more than two clear days; the order to be served upon any person upon the premises, or if there is no one then the order to be affixed to the premises, and if such order be not complied with the owner or occupier in default to be liable to a penalty not exceeding 10*s.* for every day of the continuance of the default; and the said bodies are empowered, by themselves or their agents, to enter on the premises, and do the works ordered or remove the nuisance, the property, if any, so acquired to vest in them, and the proceeds of the sale to be applied to the relief of the poor.

In Scotland, by § 2, the process is precisely the same, except that the complaint is to be made in the first place to the procurator-fiscal of the county or burgh, the dean of guild, or to the local commissioners, and the complaint is to be heard by the sheriff or two justices. The rest of the clause is identical with § 1.

§ 3 gives power to recover the expenses occasioned by the removal or remedy of such nuisances by the said bodies from the owner or occupier by levy of distress on the premises, or elsewhere, if not sufficient, unless the justices think fit to excuse the party on the ground of poverty. Expenses not recovered from the owner or occupier are to be defrayed (§ 4) out of the poor's rates in England and Ireland, and in Scotland, or places where there may not be any assessment for the relief of the poor, out of a rate assessed for the purpose.

The above provisions (§ 5) are not to apply to districts and places in which the Public Health Act is in force, except in so far as the General Board of Health by order in writing shall direct, nor are they to impair the jurisdiction of any commission of sewers.

The surveyor of highways (§ 6) is required to cleanse open ditches, drains, &c. adjoining highways, and the proceeds arising therefrom is to be applied towards the repairs of the highways of the parish in which such clearance has been made.

Any one suffering (§ 7) any sewage, soil, or other noxious matter to flow into any open ditch or water-course, so as to be a nuisance, from any house or premises erected after the passing of this Act, or from any privy or water-closet so erected, shall be deemed guilty of a misdemeanour, or in Scotland of an offence punishable by fine and imprisonment, with an additional penalty, not exceeding 5*l.*, for every day during which the offence is continued.

Notice must be given to the General Board of Health (§ 8), and in Ireland to the Commissioners of Health, of the intention to build or open any hospital for the reception of patients afflicted with contagious or infectious disorders; and no such building to be built or opened till their approval in writing has been received.

The Privy Council in England (§ 9) and the Lord Lieutenant or Privy Council in Ireland, are empowered to issue orders for putting in force the provisions of this Act relative to the prevention of epidemic and contagious diseases, in such parts or places as the orders may direct, and may extend, revoke, or renew them; every such order to be in force for six months or for such shorter period as the order may direct. After the issuing of any such order (§ 10) the General Board of Health in England and the Commissioners of Health in Ireland may issue such regulations and directions as they shall think fit, for the prevention or mitigation of epidemic, endemic, or contagious diseases, and may alter, revoke, or renew the same; they may by such directions provide for the effectual cleansing of streets and public ways; for the cleansing, ventilating and purifying of houses, buildings, churches, and places of assembly; for the removal of nuisances; for the speedy interment of the dead; and to provide for the dispensing of medicines and the supply of medical aid to persons afflicted with epidemic, endemic, or contagious diseases; and they may require the guardians of the poor and other authorities to see to the proper execution of these regulations.

§ 11 empowers the Privy Council to nominate one medical member of the General Board of Health, whose salary and allowances are to be fixed and paid by the Commissioners of the Treasury. [Dr. Southwood Smith has been appointed.]

The Poor Law Commissioners (§ 12) in England and Ireland, and the Board of Supervision in Scotland, have the same power to enforce the execution of the regulations and directions of the General Board of Health or Commissioners of Health, by the guardians or other officers for the relief of the poor, as they have in other matters concerning the administration of the poor laws.

Persons acting (§ 13) in the execution of such directions and regulations are authorized, at any reasonable time in the day time, to enter and inspect any place where they have reason to believe any nuisance exists, or where any necessity exists for executing any such directions or regulations. Guardians and parochial boards (§ 14) may appoint an officer for such duties, who is to be paid out of the poor's rate; and in extra-parochial places and in Scotland, in places where there is no rate for the relief of the poor, the officer is to be paid out of any other public rate or by a rate levied for the purpose.

All orders, directions, and regulations (§ 15) are to be laid before Parliament, and be published in the London and Edinburgh Gazettes for Great Britain, and the Dublin Gazette for Ireland.

The penalty (§ 16) for the violation or for obstructing the execution of any of the directions or regulations of the General Board of Health, or Commissioners of Health, is not to exceed 5*l.* and an addi-

tional penalty not exceeding 5*l.* for every day's continuance of such obstruction or refusal to carry the directions into effect. The penalties (§ 17) are to be recovered in the usual way, and the proceeds to be applied in aid of the fund for the relief of the poor.

Where two or more owners or occupiers (§ 18) are jointly answerable, one or more may be proceeded against alone, who may recover contribution from the others.

In any proceeding under this Act (§ 19) it is unnecessary to describe the owner or occupier by name.

Proceedings (§ 20) are not to be quashed for want of form; and proceedings (§ 21) commenced under 9 and 10 Vict. cap. 96 may be enforced, although that Act has expired.

§ 22 is the interpretation clause; § 23 gives the title of the Act; and § 24 provides that it may be amended or repealed during the Session.*

COPPER AND LEAD DUTIES.

[11 and 12 Victoriæ, cap. 127.—Sept. 5, 1848.]

An Act to reduce the Duties on Copper and Lead.

From the passing of this Act, the duties on copper and lead are to be levied according to the following scale, the duties to be as heretofore, under the management of the Board of Customs:—

		£	*s.*	*d.*
Copper, ore of	per ton	0	1	0
——— regulus of	,,	0	1	0
——— old, fit only to be manufactured	,,	0	2	6
——— unwrought, viz. in bricks or pigs, rose copper, and all cast copper	,,	0	2	6
——— part wrought, viz. bars, rods, or ingots, hammered or raised	,,	0	2	6
——— in plates and copper coin	,,	0	2	6
Lead, pig and sheet	,,	0	2	6

SAVINGS BANKS (IRELAND).

[11 and 12 Victoriæ, cap. 133.—Sept. 5, 1848.]

An Act to amend the Laws relating to Savings Banks in Ireland.

§ 1 repeals the 6th section of the 7 and 8 Vict. cap. 83, relating to the liability of trustees; and gives power (§ 2) from November 20, 1848, to trustees and managers, to limit their responsibility by a notice in writing to a specific amount, not less than 100*l.* and to be then no longer liable for any deficiency beyond the amount specified, except for money actually received and not paid over or accounted for. This provision to be enrolled as one of the rules, and the names and residences of the managers, together with the trustees, are to be affixed in every office where deposits are received, with the amount to which, individually or collectively, their responsibility is limited.

There are some other clauses, but merely of detail as to management.

* An edition of this Act, with explanatory notes by W. G. Lumley, has been published by C. Knight.

MEMORANDUM.

[The following List contains the Titles of the Public Acts of the Session, not included in the foregoing Abstracts.]

1. An Act to facilitate the completion, in certain cases, of public works in Ireland.

3. An Act to give further time for making certain railways.

4. An Act to apply the sum of eight millions out of the Consolidated Fund to the service of the year 1848.

5. An Act to suspend for five years the operation of certain parts of an Act of the tenth year of Her present Majesty, for making further provision for the government of the New Zealand islands; and to make other provision in lieu thereof.

7. An Act to amend an Act for consolidating the Queen's Bench, Fleet, and Marshalsea Prison, and for regulating the Queen's Prison.

8. An Act to continue for three years, the duties on profits arising from property, professions, trades, and offices.

9. An Act to continue for three years, the stamp duties granted by an Act of the fifth and sixth years of Her present Majesty, to assimilate the stamp duties in Great Britain and Ireland, and to make regulations for collecting and managing the same.

10. An Act for empowering certain officers of the High Court of Chancery to administer oaths and take declarations and affirmations.

11. An Act for punishing mutiny and desertion, and for the better payment of the army and their quarters.

12. An Act for the better security of the crown and government of the United Kingdom.

13. An Act for amending the law for the leasing of mines in Ireland.

14. An Act for authorizing a borough police superannuation fund.

15. An Act for the regulation of Her Majesty's Royal Marine forces while on shore.

16. An Act for raising the sum of 17,946,500*l.* by Exchequer Bills, for the service of the year 1848.

17. An Act to amend the Act of the present Session to facilitate the completion of public works in Ireland.

18. An Act to remove certain doubts as to the law for the trial of controverted elections.

19. An Act to indemnify such persons in the United Kingdom as have omitted to qualify themselves for offices and employments, and to extend the time limited for those purposes respectively until March 25, 1849.

20. An Act to authorize for one year, and to the end of the then next Session of Parliament, the removal of aliens from the realm.

21. An Act to consolidate and amend the laws relating to insolvent debtors in India.

22. An Act for granting relief to the island of Tobago, and for aiding the colonies of British Guiana and Trinidad in raising money for the promotion of immigration of free labourers.

23. An Act to alter and amend an Act passed in the third year of the reign of his Majesty King George the Fourth, intituled, "An Act to Incorporate the Contributors for the Erection of a National Monument in Scotland to commemorate the Naval and Military Victories obtained during the late War."

24. An Act for disfranchizing the freemen of the borough of Great Yarmouth.

25. An Act to extend the powers given by former Acts for purchasing or hiring land in connexion with, or for the use of workhouses in Ireland; and for providing for the burial of the poor.

26. An Act to remove difficulties in the appointment of collectors of grand jury cess in Ireland in certain cases, and to remove doubts as to the jurisdiction of the divisional justices of the police district of Dublin metropolis relating to the recovery of poor rates, and other cases.

28. An Act to amend the law of imprisonment for debt in Ireland, and to improve the remedies for the recovery of debts and of the possession of tenements situate in cities and towns, in certain cases.

31. An Act to amend the procedure in respect of orders for the removal of the poor in England and Wales, and appeals therefrom.

32. An Act to facilitate the collection of county cess in Ireland.

33. An Act to apply the sum of three millions out of the Consolidated Fund to the service of the year 1848.

34. An Act to amend certain Acts in force in Ireland in relation to appeals from decrees and dismisses on civil bills in the county of Dublin and county of the city of Dublin.

35. An Act to empower the Lord Lieutenant or other chief governor or governors of Ireland to apprehend, and detain until 1st March, 1849, such persons as he or they shall suspect of conspiring against her Majesty's person and Government.

36. An Act for the amendment of the law of entail in Scotland.

37. An Act to amend the law relative to the assignment of ecclesiastical districts.

38. An Act to authorize the West India relief commissioners to grant further time for the repayment of monies advanced by them in certain cases.

39. An Act to facilitate the raising of money by corporate bodies for building or repairing prisons.

40. An Act to alter the mode of assessing the funds leviable in the county of Inverness, for making and maintaining certain roads and bridges and other works in the highlands of Scotland.

41. An Act to amend the laws relating to the ecclesiastical unions and divisions of parishes in Ireland.

42. An Act to facilitate the performance of the duties of justices of the peace out of sessions within England and Wales with respect persons charged with indictable offences.

43. An Act to facilitate the performance of the duties of justices of the peace out of sessions, within England and Wales, with respect to summary convictions and orders.

44. An Act to protect justices of the peace from vexatious actions for acts done by them in execution of their office.

45. An Act to amend the Acts for facilitating the winding up the affairs of joint-stock companies unable to meet their pecuniary engagements; and also to facilitate the dissolution and winding-up of joint-stock companies and other partnerships.

46. An Act for the protection and relief of the destitute poor evicted from their dwellings in Ireland.

48. An Act to facilitate the sale of incumbered estates in Ireland.

49. An Act for regulating the sale of beer and other liquors on the Lord's day.

50. An Act to empower the Commissioners of her Majesty's Woods to remove the Colonnade in the Regent's Quadrant.

51. An Act to provide additional funds for loans for drainage and other works of public utility in Ireland.

52. An Act to explain the Acts for preventing the destruction of the breed of salmon and fish of the salmon kind.

53. An Act to empower the Commissioners of her Majesty's Woods to make certain alterations and improvements in the approaches to the Castle and town of Windsor.

54. An Act for incorporating the Commissioners of the Caledonian Canal, and for vesting the Crinan Canal in the said commissioners.

55. An Act for consolidating the offices of Paymasters of Exchequer Bills and Paymaster of Civil Services with the office of Paymaster General, and for making other provisions in regard to the consolidated offices.

56. An Act to repeal so much of an Act of the third and fourth years of her present Majesty, to re-unite the provinces of Upper and Lower Canada, and for the government of Canada, as relates to the use of the English language in instruments relating to the Legislative Council and Legislative Assembly of the province of Canada.

57. An Act to enable her Majesty to exchange the advowson of the vicarage of Stoneleigh, in the county of Warwick, for the advowsons of the rectory of Yoxall, in the county of Stafford, and the perpetual curacy of Hunningham, in the county of Warwick.

58. An Act to authorize for ten years, and to the end of the then next Session of Parliament, the regulation of the annuities and premiums of the Naval Medical Supplemental Fund Society.

59. An Act for the more speedy trial and punishment of juvenile offenders in Ireland.

61. An Act to effect an exchange of ecclesiastical patronage between her Majesty and the Earl of Leicester, and for the severance and consolidation of certain benefices in the diocese of Norwich, and for other ecclesiastical purposes.

62. An Act to appoint additional commissioners for executing the Acts for granting a land tax and other rates and taxes.

64. An Act to continue until October, 1, 1849, and to the end of the then next session of Parliament, an Act to amend the laws relating to loan societies.

65. An Act to suspend until October 1, 1849, the making of lists and the ballots and enrolments for the militia of the United Kingdom.

66. An Act to continue to October 1, 1849, and to the end of the then next session of Parliament, an Act for authorizing the application of highway rates to turnpike roads.

67. An Act for further continuing until August 1, 1849, and to the end of the then next session of Parliament, certain temporary provisions concerning ecclesiastical jurisdiction in England.

68. An Act for extending to Ireland an Act passed in the last session of Parliament, intituled an Act for better securing Trust Funds, and for the Relief of Trustees.

69. An Act to repeal so much of an Act of the Parliament of Ireland of the twenty-third and twenty-fourth years of King George the Third, "for the more effectually punishing such persons as shall by violence obstruct the freedom of corn markets and the corn trade, and who shall be guilty of other offences therein mentioned, and for making satisfaction to the parties injured," as relates to the making of satisfaction to the parties injured; and to substitute other provisions in lieu thereof; and to repeal the provisions of the Acts which give remedies against any hundreds or baronies in Ireland in respect of robbery.

70. An Act for dispensing with the evidence of the proclamations on fines levied in the Court of Common Pleas at Westminster.

71. An Act to continue to July 20, 1853, and to the end of the then next session of Parliament, her Majesty's Commission for building new churches.

72. An Act to amend the Acts relating to the constabulary force in Ireland, and to amend the provisions for the payment of special constables.

73. An Act to continue until July 31, 1849, and to the end of the then session of Parliament, certain Acts for regulating turnpike roads in Ireland.

74. An Act to authorize the Lords of Council and Session to regulate the rates or dues of registration to be charged by the keepers of the registers of sasines, reversions, &c. in Scotland.

75. An Act to defray until August 1, 1849, the charge of the pay, clothing, and contingent and other expenses of the disembodied militia in Great Britain and Ireland; to grant allowances in certain cases to subaltern officers, adjutants, paymasters, quartermasters, surgeons, assistant-surgeons, surgeon's mates, and serjeant majors of the militia; and to authorize the employment of the non-commissioned officers.

76. An Act to enable archbishops and bishops and other persons in Ireland to compromise suits touching their rights of patronage as to ecclesiastical benefices, in certain cases.

77. An Act to authorize the application of part of the unclaimed money in the Court for the Relief of Insolvent Debtors in enlarging the Court House of the said court.

79. An Act to facilitate and simplify procedure in the Court of Justiciary in Scotland.

80. An Act to empower lessees of tithe rent-charge in Ireland to deduct a proportion of poor-rate poundage from rent; and also to empower the Ecclesiastical Commissioners in Ireland to allow sums paid for poor-rate or county cess, or poundage deducted from ecclesiastical persons on account of poor-rate among the deductions from the valuation of ecclesiastical property directed to be made under an Act of the third and fourth years of his late Majesty, for the purpose of a certain tax thereby imposed upon such property in Ireland.

83. An Act to confirm the awards of Assessionable Manors Commissioners, and for other purposes relating to the Duchies of Cornwall and Lancaster.

84. An Act to amend the Acts for rendering effective the service of the Chelsea and Greenwich out-pensioners, and to extend them to the pensioners of the East India Company.

85. An Act to continue to October 1, 1849, and to the end of the then next session of Parliament, the exemption of inhabitants from liability to be rated as such in respect of stock in trade or other property to the relief of the poor.

86. An Act to empower Commissioners of the Court of Bankruptcy to order the release of Bankrupts from prison in certain cases.

87. An Act to extend the provisions of an Act passed in the first year of his late Majesty King William the Fourth, intituled An Act for consolidating and amending the laws for facilitating the payment of debts out of real estate.

88. An Act for further regulating the Money Order Department of the Post Office.

89. An Act to continue for two years, and to the end of the then next session of Parliament, and to amend an Act of the second and third years of her present Majesty, intituled An Act to extend and render more effectual for five years an Act passed in the fourth year

of his late Majesty George the Fourth, to amend an Act passed in the fiftieth year of his Majesty George the Third, for preventing the administering and taking unlawful oaths in Ireland.

92. An Act for the protection and improvement of the salmon, trout, and other inland fisheries of Ireland.

93. An Act to confirm the incorporation of certain boroughs.

94. An Act to regulate certain offices in the Petty Bag in the High Court of Chancery, the practice of the common-law side of that court, and the Enrolment Office of the said court.

95. An Act to carry into effect the arrangements of the Ecclesiastical Commissioners for England for making better provision for the cure of souls in the parish of Wolverhampton, in the county of Stafford and diocese of Lichfield.

96. An Act to continue certain Turnpike Acts for limited periods.

98. An Act to amend the law for the trial of election petitions.

99. An Act to further extend the provisions of the Act for the Inclosure and Improvement of Commons.

100. An Act to permit the distillation of spirits from sugar, molasses, and treacle in the United Kingdom.

101. An Act to provide for the expenses of erecting and maintaining lock-up houses on the borders of counties.

102. An Act to enlarge the powers of an Act empowering the Commissioners of her Majesty's Woods to form a Royal Park in Battersea-fields; to facilitate the raising of monies authorized to be raised by the said Commissioners for Metropolitan Improvements; and to regulate and simplify the mode of keeping the accounts of the Commissioners of her Majesty's Woods.

103. An Act to authorize the application of a sum of money out of the forfeited and unclaimed army prize fund in purchasing the site of the Royal Military Asylum, and in improving such Asylum.

104. An Act for amending the Act for regulating the prison at Millbank.

106. An Act to amend an Act of the tenth year of her present Majesty, for rendering valid certain proceedings for the relief of distress in Ireland by employment of the labouring poor, and to indemnify those who have acted in such proceedings.

108. An Act for enabling her Majesty to establish and maintain diplomatic relations with the sovereign of the Roman States.

111. An Act to amend an Act of the tenth year of her present Majesty, for amending the laws relating to the removal of the poor.

112. An Act to consolidate, and continue in force for two years and to the end of the then next session of Parliament, the Metropolitan Commissions of Sewers.

113. An Act for the further amendment of the Acts relating to the Dublin police.

115. An Act to vest in her Majesty the property of the Irish Reproductive Loan Fund Institution, and to dissolve the said institution.

116. An Act for carrying into effect the treaty between her Majesty and the Republic of the Equator for the abolition of the traffic in slaves.

118. An Act to explain and amend the law as to the license required for the letting of post-horses to hire in Ireland, and the law respecting proceedings for duties and penalties under the Post Horse, Stage, and Hackney Carriage Acts in the United Kingdom.

119. An Act to simplify the forms of Certificates under the Act authorizing the advance of money for the improvement of land by drainage in Great Britain.

120. An Act to facilitate the transfer of landed property in Ireland.

121. An Act to alter the laws and regulations of Excise respecting the survey of dealers in and retailers of spirits, and respecting the sale and removal of spirits by permit from the stock of such traders; and respecting the distribution of penalties and forfeitures recovered under the laws of Excise.

122. An Act to amend the laws respecting the warehousing of British spirits in England, Scotland, and Ireland respectively, and to permit spirits made from malt only, and spirits made from malt and other grain, and rectified spirits, to be exported on drawback from any part of the United Kingdom; and respecting certain spirit mixtures, and the removal of goods subject to Excise regulations from Customs warehouse.

124. An Act to amend an Act of the last session, for varying the priorities of the charges made on "The London Bridge Approaches Fund," and to facilitate the completion of certain improvements in the city of Westminster.

125. An Act for raising the sum of two millions by Exchequer Bills, or by the creation of Annuities, for the service of the year 1848.

126. An Act to apply a sum out of the Consolidated Fund, and certain other sums, to the service of the year 1848; and to appropriate the supplies granted in this session of Parliament.

128. An Act for carrying into effect the agreement between her Majesty and the Imaum of Muscat for the more effectual suppression of the slave-trade.

129. An Act for amending an Act passed in the ninth and tenth years of her present Majesty for making preliminary inquiries in certain cases of applications for Local Acts.

130. An Act for guaranteeing the interest on such loans, not exceeding 500,000*l.*, as may be raised by the British Colonies on the Continent of South America, in the West Indies and the Mauritius, for certain purposes.

131. An Act to amend, and continue until November 1, 1849, and to the end of the then next session of Parliament, an Act to make provision for the treatment of poor persons afflicted with fever in Ireland.

132. An Act for the appointment of additional Taxing Masters for the High Court of Chancery in Ireland, and to regulate the appointment of the principal assistants to the Masters in the superior courts of law in Ireland.

XIII.—ABSTRACTS OF PARLIAMENTARY DOCUMENTS, &c.

*** Fractional sums are omitted in some instances.

I.—*Finance.*

AN ACCOUNT of the GROSS and NET PUBLIC INCOME and EXPENDITURE of the United Kingdom, for the year ending January 5, 1848.

INCOME.

	£
Balances, &c., outstanding at the commencement of the Year	1,444,974
ORDINARY REVENUES.	
Customs	21,655,662
Excise	13,919,652
Stamps (including Hackney Coach Licences, &c.)	7,671,324
Taxes (Land and Assessed)	4,553,860
Property and Income Tax	5,612,655
Post-office	2,181,017
Duties on Offices and Pensions	4,812
Crown Lands	430,763
Small Branches, Hereditary Revenue	8,187
Surplus Fees of regulated Offices	106,880
OTHER RECEIPTS.	
Money received from the East India Company	60,000
Imprests and other Monies	109,463
From the King of the Belgians, out of his Annuity	36,000
	57,795,249
Deduct Balance outstanding	1,521,519
Total Gross Revenue	56,273,730
Charges of Collection, &c.	4,727,465
Total Net Revenue	51,546,265
Total Gross Revenue brought down	56,273,730
Excess of Expenditure over Income	2,956,683
	£59,230,413

EXPENDITURE.

Charges of Collection	3,963,539
Other Payments	763,926
FUNDED DEBT.	
Interest and Management of Permanent Debt	23,799,259
Terminable Annuities	3,905,974
Unfunded Debt	436,298
Carried forward	29,868,996

	£
Brought forward . .	29,868,996
Civil List	393,983
Annuities and Pensions for Civil, Naval, Military, and Judicial Services, charged by various Acts upon the Consolidated Fund	529,804
Salaries and Allowances	260,811
Diplomatic Salaries and Pensions	171,346
Courts of Justice	1,046,594
Miscellaneous Charges on the Consolidated Fund . .	310,976
Army, Navy, &c.	
Army	7,540,405
Navy	8,013,873
Ordnance	2,947,869
Miscellaneous Services charged on Annual Grants of Parliament	3,561,067
Distress in Ireland	1,525,000
Unclaimed Dividends (more than received) . . .	59,689
Total Expenditure	59,230,413

An Account, showing the Gross and Net Post-office Revenue, and the Cost of Management for the United Kingdom, for the year ending the 5th of January, 1841, and for each subsequent year, excluding from the Account, whether of Gross Revenue or Cost of Management, any Advances that may have been made by the English to the Irish Post-office, and Advances to the Money Order Office; also disregarding, in the Return for each year, any Old Debts written off, on Postage remitted, or any other Deductions which relate to previous years (omitting fractions).

Year ending	Gross Revenue.*	Cost of Management.†	Net Revenue.	Charged on Government Departments.
	£	£	£	£
January 5, 1841	1,359,466	858,677	500,789	90,761
„ 1842	1,499,418	938,168	561,249	113,255
„ 1843	1,578,145	977,504	600,641	122,161
„ 1844	1,620,867	980,650	640,217	116,503
„ 1845	1,705,067	985,110	719,957	109,232
„ 1846	1,887,576	1,125,594	761,982	101,190
„ 1847	1,963,857	1,138,745	825,112	100,354
„ 1848	2,181,016	1,196,520	984,496	121,290

* Namely, the Gross Receipts, after deducting the Returns for "Refused Letters," &c.

† Including all payments out of the Revenue in its progress to the Exchequer, except advances to the Money Order Office; of these sums, £10,307 10*s.* per annum is for Pensions, and forms no part of the disburements an account of the service of the Post-office.

Note.—It will be seen that the years ending 5th January, 1846 and 1847, differ in certain items from the former Returns of those years. This arises from the East India Company's Postage having been, in the Returns referred to, included both in the "Gross Revenue" and "Postage charged on the Government Departments;" it is now entirely excluded from the Account.

THE REVENUE.—An Abstract of the Net Produce of the Revenue of Great Britain, in the Years and Quarters ended 10th October, 1847, and 10th October, 1848, showing the Increase or Decrease thereof.

	Quarters ended				Year ended Oct. 10, 1847.	Quarters ended				Year ended Oct. 10, 1848.	Year ended Oct. 10, 1848.		Quarter ended Oct. 10, 1848.	
	Jan. 5, 1847.	April 5, 1847.	July 5, 1847.	Oct. 10, 1847.		Jan. 5, 1848.	April 5, 1848.	July 5, 1848.	Oct. 10, 1848.		Increase.	Decrease.	Increase.	Decrease.
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
CUSTOMS	4,514,721	4,447,673	4,519,119	4,936,644	18,418,157	4,111,862	4,392,650	4,447,832	5,406,483	18,358,827	. .	59,330	469,839	. .
EXCISE	3,608,155	1,652,865	3,291,052	3,539,946	12,092,018	3,246,883	2,002,601	3,473,803	4,102,574	12,825,861	733,843	. .	562,628	. .
STAMPS	1,740,687	1,817,282	1,869,464	1,707,945	7,135,378	1,564,855	1,618,668	1,557,640	1,461,942	6,203,105	. .	932,273	. .	246,003
TAXES	1,909,889	130,892	2,075,001	213,885	4,329,677	1,914,783	143,902	2,034,133	215,656	4,308,474	. .	21,203	1,771	. .
PROPERTY TAX	450,219	2,033,072	1,036,517	1,918,645	5,438,453	462,567	2,041,640	988,401	1,892,890	5,385,498	. .	52,955	. .	25,755
POST OFFICE	203,000	219,000	215,000	222,000	859,000	208,000	221,000	136,000	221,000	786,000	. .	73,000	. .	1,000
CROWN LANDS	30,000	37,000	. .	. .	67,000	40,000	21,000	10,000	20,000	91,000	24,000	. .	20,000	. .
MISCELLANEOUS	29,65	92,593	7,461	73,126	202,837	11,746	56,307	89,022	13,923	170,998	. .	31,839	. .	59,203
Total Ordinary Revenue	12,466,338	10,430,377	13,013,614	12,612,191	48,542,520	11,560,696	10,497,768	12,736,831	13,334,468	48,129,763	757,843	1,170,600	1,054,238	331,961
China Money	. .	. .	. .	. .	. .	. .	455,021	. .	. .	455,021	455,021	. .	. .	. .
Imprest and other Moneys	31,884	53,859	88,632	43,537	217,912	30,614	24,452	88,805	168,437	312,308	94,396	. .	124,900	. .
Repayments of Advances	302,449	164,568	137,944	187,486	792,447	74,045	74,138	86,813	112,605	347,604	. .	444,843	. .	74,881
Total Income	12,820,671	10,648,804	13,240,190	12,843,214	49,552,879	11,665,358	11,051,379	12,912,449	13,615,510	49,244,696	1,307,260	1,615,443	1,179,138	406,842
The Amount applied to the Consolidated Fund, exclusive of Advances and inclusive of Loan	8,615,898	3,207,608	9,912,813	8,236,066	29,972,385	7,010,559	5,956,232	6,818,019	7,230,426	27,015,236	Deduct Increase	1,307,260	406,842	Deduct Decrease
Ditto applied as Advances	637,500	2,940,000	1,724,311	398,084	5,899,895	340,830	149,059	231,111	428,746	1,149,746				
Ditto applied as part of the Ways and Means of the Year	3,367,273	5,461,196	7,113,698	5,126,232	21,068,399	4,889,744	4,946,088	5,863,319	5,956,338	21,655,489	Decrease on Year	308,183	772,296	Increase on Quar.
Total	12,820,671	11,608,804	18,750,822	13,760,382	56,940,679	12,241,133	11,051,379	12,912,449	13,615,510	49,820,471				

A RETURN, "showing the AMOUNT of CAPITAL on which the several Rates of LEGACY DUTY have been paid in Great Britain in the Years ended January 5, 1847, and January 5, 1848; and an ABSTRACT of the TOTAL AMOUNT under each RATE since 1797."

£.	Year 1846. £.	s.	d.	Year 1847. £.	s.	d.
1 per cent. . .	22,809,929	11	8	22,234,885	0	0
2 „ . . .	73,715	10	0	52,276	13	4
3 „ . . .	13,393,106	18	10	14,274,321	13	4
4 „ . . .	13,325	2	1	4,051	9	2
5 „ . . .	1,574,734	5	0	1,842,168	8	4
6 „ . . .	291,299	7	6	285,155	6	11
8 „ . . .	9,619	13	9	35,409	0	2
10 „ . . .	4,464,957	0	0	4,883,375	0	10
TOTAL . .	£42,630,687	8	10	£43,611,642	12	1

ABSTRACT of the TOTAL AMOUNT under each RATE since 1797.

£.	£	s.	d.
1 per cent. . .	707,820,101	2	4
2 „ . . .	20,716,610	1	8
2½ „ . . .	70,809,123	4	8
3 „ . . .	376,031,748	10	11
4 „ . . .	12,683,856	0	7
5 „ . . .	54,221,408	5	8
6 „ . . .	18,374,291	7	8
8 „ . . .	11,858,323	2	6
10 „ . . .	153,146,379	19	10
TOTAL . .	£1,425,661,841	15	0

A RETURN of the TOTAL AMOUNT of REVENUE received in the UNITED KINGDOM, in the Years ending 5th January 1847 and 1848, for STAMP DUTY on LEGACIES, on PROBATES, ADMINISTRATIONS, and TESTAMENTARY INVENTORIES; distinguishing the AMOUNT from England and Wales, Scotland and Ireland (omitting fractions).

Years ended 5 Jan.		England and Wales.	Scotland.	Great Britain.	Ireland.
		£.	£.	£.	£.
1847	Legacies	1,087,005	97,198	1,184,20 3	63,350
	Probates, Administrations and Testamentary Inventories	915,045	67,523	982,578	71,996
1848	Legacies	1,174,466	83,995	1,258,461	61,061
	Probates, Administrations and Testamentary Inventories	978,820	82,147	1,060,967	86,051

A Return of the Revenue and Expenditure of India, for the year 1844-45 and 1845-46, being the last two years for which complete Accounts of the Revenues and Charges have been received.

Revenues.	1844-5. £	1845-6. £
Mint Duties	103,409	72,116
Post Office Collections	170,969	174,940
Stamp Duties	417,430	408,819
Excise Duties in Calcutta	24,888	29,100
Judicial Fees and Fines	121,603	131,694
Miscellaneous Civil Receipts	90,139	14,778
Land Revenue	12,397,553	12,549,861
Sayer, Abkarry, Moturpha, &c.	856,455	895,627
Miscellaneous Receipts in the Revenue Department	57,888	46,542
Receipts from the Territory ceded by the Burmese	168,915	176,388
Receipts from Scinde	256,943	262,577
Customs, including Duty on Salt	1,900,999	1,959,339
Sale of Salt	2,192,666	1,877,262
——— Opium and Opium Passes	2,670,738	3,354,377
——— Tobacco	79,823	84,445
Marine and Pilotage Receipts	103,987	124,649
Revenues of Prince of Wales' Island, Singapore and Malacca	69,357	71,160
Tributes and Subsidies	492,175	470,635
Interest on Arrears of Revenue, &c.	4,755	4,050
Total Gross Revenue	22,180,692	22,708,559
Deduct: Allowances and Assignments, and the Sinking Fund for the redemption of the Bonds of the late Rajah of Tanjore	1,839,229	1,859,220
Net Revenues	20,341,463	20,849,339
Charges of collecting the Revenues, including Cost of Salt, Opium, and Tobacco.		
Charges of collecting the Stamp Duties	23,239	27,596
——— Land, Sayer, Abkarry, and Moturpha Revenues	1,603,346	1,565,716
——— Customs	185,414	182,709
Cost and Charges of Salt, including Payments made to French and Danish Governments under Convention	589,254	517,278
Cost and Charges of Opium	625,780	726,237
——— Tobacco	21,674	18,873
Charges of Collection	3,048,707	3,038,409
Total Net Revenues	17,292,756	17,810,930
Net Receipts from Produce of the Commercial Assets both in India and England	379	1,489
Total Net Revenues and Receipts	17,293,135	17,812,419
Deficiency	743,514	1,495,376
	18,036,649	19,307,795

Charges.	1844-5. £	1845-6. £
Mint Charges	72,244	72,187
Post-office Charges	176,682	183,693
Charges of the Civil and Political Establishments, including contingent Charges	1,567,066	1,650,903
Net Loss by Exchange operations between Bengal and England	42,908	69,555
Charges of the Queen's Supreme Court and other Local Courts within its jurisdiction	194,225	194,605
Ditto . . Sudder, Provincial, and Zillah Courts	1,171,210	1,189,097
Provincial Police	390,977	428,243
Charges in the Territory ceded by the Burmese	106,310	104,423
Ditto . . . of the Province of Scinde	548,831	640,405
Indian Navy, Marine and Pilotage Charges	299,126	331,763
Buildings, Roads, and other Public Works, exclusive of Repairs	135,294	169,443
Charges of Prince of Wales' Island, Singapore and Malacca	63,475	64,623
Military Charges	8,853,595	9,054,098
Military Buildings	110,648	108,391
War Charges (exclusive of the Expedition to China, chargeable to Her Majesty's Government, and of the War Charges in Scinde)	83,305	100,919
Mission and Measures for the support of Schah Soojah	216	651
Danish Government, in consideration of the transfer to the British Government of the Danish Settlements in India	....	117,187
Interest on Debt	1,741,028	1,827,189
Total Charges, exclusive of Collection	15,557,140	16,307,375
Deductions:		
Unclaimed Deposits of Seven years' standing in the Judicial and Revenue Departments, credited to the Public Account	5,703	15,692
Indemnity from the Lahore Government under the Treaty, dated 9th of March, 1846	....	27,955
Total Deductions	5,703	43,647
Total Net Charges in India	15,551,437	16,263,728
Charges disbursed in England	2,485,212	3,044,067
	18,036,649	19,307,795

A Statement of the Charges defrayed in England on account of the Indian Territory, in the years comprised in the preceding Account.

Dividends to Proprietors of East India Stock	629,009	623,163
Interest on the Home Bond Debt	64,339	62,271
Invoice Value of Stores consigned to India	341,259	478,657
Carried forward	1,034,607	1,164,091

Brought forward....	£1,034,607	£1,164,091
Purchase and Equipment of Steam Vessels, and various Expenses connected with Steam Communication with India, deducting Amount chargeable to Her Majesty's Government	12,894	68,535
Peninsular and Oriental Steam Navigation Company, in aid of the extension of Steam communication with India	20,000	—
Her Majesty's Government, on account of the Proportion agreed to be borne by the Company, of the amount payable under Contract between Her Majesty's Government and the Peninsular and Oriental Steam Navigation Company, for an extended communication with India and China	12,578	63,707
Transport of Troops and Stores, deducting freight charged on Invoices.....	31,937	38,386
Furlough and Retired Pay to Military and Marine Officers, including off-reckonings	577,636	597,098
Payments on account of Her Majesty's Troops serving in India	187,500	450,000
Retiring Pay to Her Majesty's Troops (Act 4 Geo. 4, c. 71)	60,000	75,000 including an arrear.
Charges General, deducting Charges of Establishments put upon Outward Invoices, and Interest realized on Investment of Cash Balances ..	480,097	518,320
Absentee Allowances to Civil Servants of the Indian Establishments.....	46,100	40,342
Retired Pay and Pensions of Persons of the late St. Helena Establishment, not chargeable to the Crown	9,863	7,125
Her Majesty's Mission to the Court of Persia (portion paid by the Company)	12,000	12,000
Board of Ordnance, for Arms and Accoutrements supplied to Her Majesty's Troops embarked for India.....	....	2,463
	2,485,212	3,044,067

II.—*Currency.*

NOTE CIRCULATION of the UNITED KINGDOM at the following dates in 1847 and 1848.

	Nov. 6, '47.	Feb. 26, '48.	May 20.	July 15.	Oct. 7.
Bank of England .	20,226,714	18,479,766	18,411,886	18,153,986	17,505,718
Private Banks .	4,299,348	3,633,141	3,846,645	3,569,534	3,681,544
Joint Stock Banks .	3,084,111	2,512,059	2,782,855	2,525,005	2,666,749
Scotland . . .	3,606,718	3,032,320	3,152,319	3,106,645	3,136,516
Ireland . . .	5,519,314	5,220,080	4,840,662	4,478,924	4,506,421
Total .	36,736,205	32,877,366	33,034,367	31,834,094	31,496,998

STATEMENT of the AFFAIRS of the BANK OF ENGLAND from the Weekly Returns of the undermentioned dates in 1847 and 1848.

	Nov. 20, '47	Feb. 26, '48	May 20.	July 15.	Oct. 21.
ISSUE DEPARTMENT.	£.	£.	£.	£.	£.
DR.—Notes issued	23,525,845	28,101,940	26,661,410	27,593,690	26,592,550
CR.—Government Debt	11,015,100	11,015,100	11,015,100	11,015,100	11,015,100
Other Securities	2,984,900	2,984,900	2,984,900	2,984,900	2,984,500
Gold Coin and Bullion ..	8,315,633	12,658,612	11,208,757	12,184,014	12,082,641
Silver Bullion	1,210,212	1,443,328	1,452,653	1,409,676	509,909
Total.....	23,525,845	28,101,940	26,661,410	27,593,690	26,592,550
BANKING DEPARTMENT.					
DR.—Proprietors' Capital ..	14,553,000	14,553,000	14,553,000	14,553,000	14,553,000
Rest.....	3,623,323	3,739,389	3,442,078	3,492,114	3,386,565
Public Deposits	7,219,802	6,417,011	4,417,182	2,621,157	3,162,909
Other Deposits.....	7,866,482	9,550,889	9,189,604	11,709,054	10,660,880
Seven Day and other Bills	681,324	828,933	1,026,108	1,150,477	1,086,886
Total.....	34,143,931	35,089,222	32,627,972	33,525,802	32,850,240
CR.—Government Securities	10,633,607	11,574,921	11,713,630	13,207,546	13,400,019
Other Securities	18,791,117	12,933,241	11,630,523	11,200,140	10,847,210
Notes	4,228,095	9,922,185	8,566,010	8,448,630	8,032,585
Gold and Silver Coin	491,112	658,875	717,809	669,486	570,246
Total.....	34,143,931	35,089,222	32,627,972	33,525,802	32,850,240

STATEMENT of the VALUE arising from the COINAGE, during the Eleven Years, from 1837 to 1847.

DATE.	Total Weight coined in each Yr.				Total Value coined in each Year.		
	Gold.	Silver.	Copper.		Gold.	Silver.	Copper.
	lbs.	lbs.	tons	cwt.	£	£	£
1837 .	26,818	23,064	22	15	1,253,071	76,111	5,096
1838 .	61,110	60,960	7	0	2,855,364	101,168	1,568
1839 .	10,793	120,980	32	0	504,303	399,234	7,168
1840 .	nil.	65,580	14	0	nil.	216,414	3,136
1841 .	8,100	29,144	33	0	378,472	96,175	7,392
1842 .	127,919	58,440	8	0	5,977,015	204,732	1,792
1843 .	141,420	83,720	68	10	6,607,850	276,276	15,344
1844 .	76,275	189,900	36	17	3,563,949	626,670	8,207
1845 .	90,842	196,260	31	0	4,244,506	647,658	6,944
1846 .	92,775	196,560	29	0	4,334,697	559,548	6,496
1847 .	110,400	38,100	40	0	5,158,440	125,730	4,960
TOTAL .	746,452	1,062,708	322	2	29,886,457	2,440,614	43,743
Tons .	373	431¼	322	2	Total .	£38,275,486	

III.—*Trade.*

AN ACCOUNT of the IMPORTS of the Principal Articles of Foreign and Colonial Merchandize, of the Consumption of such Articles, and of the CUSTOMS DUTIES received thereon, in the year ended 5th January, 1848.

Articles.		Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
				£
Animals, living: viz.—				
Oxen and bulls.....	number	27,811	. .	—
Cows	number	35,138	. .	—
Calves	number	12,389	. .	—
Sheep	number	136,527	. .	—
Lambs	number	3,349	. .	—
Swine and hogs.....	number	1,242	. .	—
Bacon	cwt.	87,067	. .	—
Barilla and Alkali.....	tons	1,638	—	—
Bark for Tanners' or Dyers' use.....	cwt.	311,218	—	—
Beef, Salted, not Corned ..	cwt.	112,590	. .	—
Beef, Fresh, or slightly Salted	cwt.	5,011	. .	—
Butter	cwt.	314,066	315,924	153,558
Caoutchouc	cwt.	5,889	—	—
Cheese	cwt.	355,253	365,503	90,928
Cocoa	lb.	5,724,092	3,107,164	14,673
Coffee:—				
Of British Possessions ..	lb.	34,242,238	27,030,907	473,066
Foreign	lb.	21,154,233	10,439,672	274,039
Total of Coffee		55,396,471	37,470,579	747,105
Corn:—				
Wheat	qrs.	2,650,058	. .	2,891
Barley	qrs.	772,349	. .	2,957
Oats	qrs.	1,706,780	. .	1,025
Rye	qrs.	68,817	. .	5
Pease.....	qrs.	157,245	. .	1,208
Beans.....	qrs.	443,719	. .	936
Indian Corn, or Maize ..	qrs.	3,614,637	. .	4,799
Buckwheat	qrs.	22,938	. .	132
Beer or Bigg	qrs.	491	—	—
Wheatmeal or Flour....	cwt.	6,329,546	. .	1,756
Barley Meal	cwt.	12,415	. .	—
Oatmeal	cwt.	57,983	. .	15
Rye Meal	cwt.	785,412	. .	—
Pea Meal	cwt.	537	—	—
Bean Meal	cwt.	80	—	—
Indian Meal	cwt.	1,451,020	. .	266
Buckwheat Meal	cwt.	384	. .	—
Dyes and Dyeing Stuffs: viz. —				
Cochineal	cwt.	14,609	—	—
Divi Divi	tons	311	—	—
Indigo	cwt.	73,862	. .	4
Lacdye	cwt.	7,400	—	—
Logwood	tons	15,388	. .	—

Articles.		Quantities Imported.	Quantities entered for Home Consumption,	Gross Amount of Duty received.
Dyes, &c. *continued.*				£
Madder	cwt.	67,855	. .	—
Madder Root	cwt.	103,325	—	—
Shumac	tons	11,768	—	—
Terra Japonica and Cutch	tons	8,651	—	—
Valonia	tons	9,904	—	—
Eggs	number	77,550,429	77,542,311	29,081
Fish of Foreign Taking:—				
Eels	ships lading	83	83	1,133
— in small quantities	cwt.	.	.	
Turbots	cwt.	120	120	31
Oysters	bushels	11	11	—
Salmon	cwt.	537	570	299
Soles	cwt.	9	9	2
Turtle	cwt.	319	319	84
Fresh, not otherwise described	cwt.	1,056	1,056	55
Cured, ditto	cwt.	1,518	1,518	75
Flax and Tow, or Codilla of Hemp and Flax	cwt.	1,049,541	—	—
Fruits—viz.				
Currants	cwt.	395,579	331,450	261,018
Figs	cwt.	32,420	32,220	25,411
Lemons & Oranges	chests or boxes	363,653	330,062	67,023
	No. (loose)	67,351	54,246	
	at value	£999	£4,722	
Raisins	cwt.	244,122	212,545	167,433
Gloves, Leather	pairs	2,121,365	2,044,783	31,402
Guano	tons	82,134	. .	1
Hams	cwt.	18,264	15,834	5,355
Hemp, undressed	cwt.	803,817	—	—
Hides, untanned—viz.				
— dry	cwt.	171,003	. .	—
— wet	cwt.	425,974	. .	—
— tanned, but not otherwise dressed	lb.	1,008,699	—	—
— tawed, curried, or in any way dressed, viz. varnished, japanned, or enamelled	lb.	99,150	. .	—
— ditto not varnished, &c.	lb.	300,725	. .	—
Mahogany	tons	33,979	. .	5
Meat, salted or fresh, not otherwise described	cwt.	3,114	—	—
Metals—viz.				
Copper Ore	tons	41,521	40,491	—
——— weight of metal	tons	. .	9,033	40,964
——— unwrought	cwt.	10,255	1,403	643
Iron, in bars, unwrought	tons	33,260	—	—
Steel, unwrought	cwt.	13,017	—	—

Articles.		Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
Metals—*continued.*				£
Lead, pig and sheet	tons	3,603	225	236
Spelter	tons	12,769	—	—
Tin, in blocks, ingots, bars, or slabs	cwt.	23,122	3,258	933
Oil—viz.				
Train, Blubber, and Spermaceti	tuns	22,616	. .	29,409
Palm	cwt.	476,401	—	—
Cocoa-nut	cwt.	30,049	—	—
Olive	tuns	8,629	—	—
Opium	lb.	118,332	45,766	2,402
Pork, salted	cwt.	235,313	—	—
Pork, fresh.....	cwt.	101	—	—
Quicksilver	lb.	2,542,857	—	—
Rice	cwt.	1,550,000	12,676	2,246
Rice, in the husk.....	qrs.	43,032	2,107	167
Saltpetre and Cubic Nitre	cwt.	512,375	—	—
Seeds—viz.				
Clover	cwt.	225,562	176,334	44,028
Flaxseed and Linseed ..	qrs.	433,536	—	—
Rape.....	qrs.	47,513	—	—
Silk—viz.				
Raw	lb.	4,123,811	—	—
Waste, Knubs and Husks	cwt.	10,291	—	—
Thrown.....	lb.	310,860	—	—
Silk Manufactures of Europe—viz.				
Entered under the Tariff of 1846. Silk or Satin, Broad Stuffs	lb.	158,888	133,381	33,350
——— —— Ribbons ..	lb.	191,247	181,369	82,611
Gauze or Crape, Broad Stuffs.....	lb.	5,908	5,000	2,250
——— Ribbons.	lb.	42,791	41,488	29,742
Gauze mixed with Silk, Satin, or any other materials, in less proportion than one-half of the fabric, viz.				
Broad Stuffs.....	lb.	71	9	4
Ribbons	lb.	3,096	3,052	1,831
Velvet—viz.				
Broad Stuffs.....	lb.	28,450	25,352	11,413
Ribbons of Velvet, or Silk embossed with Velvet	lb.	15,845	15,848	7,925
Silk Manufactures of India—viz.				
Bandannoes and other Silk Handkerchiefs.....	pieces	577,743	160,312	5,467
Silks, European and East India, not particularly described		. .	. .	56,657

Articles.	Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
			£
Skins——viz.			
Goat, undressed..... number	556,921	—	—
Kid, undressed ..... number	40,191	—	—
— dressed ..... number	344,194	—	—
Lamb, undressed ..... number	1,124,036	—	—
—— tanned, tawed, or dressed ..... number	8,358	—	—
Spices—viz.			
Cassia Lignea ..... lb.	343,062	114,572	1,499
Cinnamon ..... lb.	383,261	18,075	249
Cloves ..... lb.	1,041,171	132,828	3,486
Mace ..... lb.	59,933	18,820	2,473
Nutmegs ..... lb.	367,161	150,710	15,816
Pepper ..... lb.	4,669,879	2,966,803	77,878
Pimento..... cwt.	12,128	3,765	988
Spirits—viz.			
Rum.... galls. (incl. overproof)	6,623,944	3,329,940	1,316,051
Brandy.. galls. ditto	2,714,973	1,537,762	1,153,164
Geneva.. galls. ditto	382,340	28,830	21,626
Sugar, unrefined—viz.			
Of the British possessions in America, equal to white clayed ..... cwt.	4,844	4,604	3,758
Of the British Possessions in America, not equal to white clayed..... cwt.	3,186,293	2,577,985	1,803,919
Of Mauritius, equal to white clayed ..... cwt.	223	34	28
—— not equal to white clayed ..... cwt.	1,193,824	1,050,052	735,057
Of British Possessions in the East Indies, into which the importation of Foreign Sugar is prohibited, equal to white clayed ..... cwt.	24,950	16,843	13,756
—— not equal to white clayed ..... cwt.	1,379,865	1,165,765	816,129
Of other British Possessions in the East Indies, not equal to white clayed ..... cwt.	2,568	955	835
From Aug. 18, 1846: Foreign, imported from the place of its growth, equal to white clayed cwt.	44,644	12,963	15,663
— not equal to white clayed ..... cwt.	2,341,536	962,554	993,267
Foreign, otherwise imported ..... cwt.	17,497	28	57
Total of Sugar unrefined....	8,196,244	5,791,783	4,382,469

Articles.		Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
				£
Sugar, refined	cwt.	82,165	25,284	31,226
— Candy	cwt.	1,995	978	1,216
— Molasses	cwt.	949,363	638,623	190,183
Tallow	cwt.	1,101,433	1,072,307	77,431
Tar.....	lasts	11,058	—	—
Tea.....	lb.	55,626,765	46,324,298	5,066,860
Timber and Wood: viz.—				
Battens and Batten Ends, Foreign, entered by tale..	hund	29	5	40
Boards, Deals, Deal Ends and Plank, Foreign, entered by tale	hund.	43	53	499
Deals, Battens, Boards, or other Timber or Wood sawn or split :—				
Of British Possessions	loads	495,296	473,392	49,684
Foreign	loads	366,008	337,555	451,612
Staves	loads	62,102	. .	89
Timber or Wood, not being articles sawn or split, or otherwise dressed, except hewn, and not otherwise charged with Duty :—				
Of British Possessions	loads	593,937	593,909	31,182
Foreign	loads	439,910	437,036	451,579
Tobacco :—Unmanufactured	lb.	33,562,232	26,543,108	4,180,263
Manufactured, and Snuff..	lb.	1,511,407	208,943	98,671
Turpentine, Common	cwt.	316,285	—	—
Wine : viz., Cape.....	gallons	323,111	293,260	42,363
French	gallons	548,890	425,271	122,640
Other sorts.....	gallons	7,047,583	5,592,005	1,613,421
Total of Wine		7,919,584	6,310,536	1,778,244
Wool, Cotton	cwt.	4,227,929	. .	1
— Sheep and Lamb's ..	lb.	62,130,307	. .	—
Other Articles		. .	. .	351,663
				21,699,306

The foregoing Statement is founded upon Returns transmitted monthly throughout the current year to the Inspector-General of Imports and Exports from the different Ports of the United Kingdom. Such Returns exhibit the gross quantities of articles entered for consumption, and the gross amount of duty thereon, without reference to deductions for over-entries, &c. This Statement therefore will not agree, in all points, with the Annual Statement to be compiled after the final adjustment of the Custom-house Records shall have been made.

AN ACCOUNT of the EXPORTS of the Principal Articles of British and Irish Produce and Manufactures, in the year ended 5th January, 1848.

	Declared Value. £
Butter	139,483
Candles	46,375
Cheese	29,525
Coals and Culm	976,377
Cotton Manufactures	17,382,293
——— Yarn	5,957,297
Earthenware	834,151
Fish, viz. Herrings	185,287
Glass	292,038
Hardwares and Cutlery	2,346,255
Leather, wrought and unwrought	339,879
Linen Manufactures	2,968,895
—— Yarn	650,307
Machinery	1,228,091
Metals, viz. Iron and Steel	5,272,942
Copper and Brass	1,467,498
Lead	181,771
Tin, unwrought	159,098
Tin Plates	459,265
Salt	260,591
Silk Manufactures	978,114
Soap	165,123
Sugar, refined	414,872
Wool, Sheep's or Lamb's	284,554
Woollen Yarn	1,006,891
——— Manufactures	6,870,818
Total of the foregoing Articles	50,897,790

ACCOUNT showing the Imports into the United Kingdom of SUGAR, MOLASSES, RUM, COFFEE, and COCOA, from the West Indies and British GUIANA, in the year 1847.

Sugar (unrefined)	cwts.	3,202,775
Molasses	cwts.	538,965
Rum	gallons	5,271,941
Coffee	lbs.	6,770,792
Cocoa	lbs.	3,026,526

AN ACCOUNT of the Number of Barrels of Beer Exported in each of the Years ending the 5th day of January, 1844, 1845, 1846, 1847, and 1848.

Year ended 5th January 1844	barrels	146,621
" " 1845	"	171,927
" " 1846	"	165,152
" " 1847	"	137,270
" " 1848	"	132,357

An Account of the Exports of the principal Articles of Foreign and Colonial Merchandize, in the year ended 5th January, 1848.

Cocoa		lb.	411,421
Coffee, viz.—of British Possessions		lb.	553,821
Foreign		lb.	12,804,981
Corn, viz.—Wheat		qrs.	125,941
Barley		qrs.	15,200
Oats		qrs.	9,151
Wheatmeal or Flour		cwt.	208,709
Dyes and Dyeing Stuffs, viz. :—			
Cochineal		cwt.	8,945
Indigo		cwt.	58,173
Lac-dye		cwt.	5,150
Logwood		tons	2,211
Metals, viz. :—Copper, unwrought		cwt.	7,659
Iron, in bars, unwrought		tons	5,053
Steel, unwrought		cwt.	13,357
Lead, Pig and Sheet		tons	3,462
Spelter		tons	3,346
Tin in Blocks, Ingots, Bars or Slabs		cwt.	11,471
Oil, Olive		tuns	673
Opium		lb.	68,521
Quicksilver		lb.	1,518,164
Rice, not in the husk		cwt.	588,708
Silk, viz. :—Raw		lb.	436,115
Waste Knubs and Husks		cwt.	22
Thrown, Dyed		lb.	632
Thrown, not Dyed		lb.	54,371
Spices, viz. :—Cassia Lignea		lb.	543,755
Cinnamon		lb.	416,698
Cloves		lb.	588,536
Mace		lb.	22,119
Nutmegs		lb.	260,289
Pepper		lb.	2,930,018
Pimento		cwt.	7,792
Spirits, viz. :—Rum	gallons (including overproof)		974,614
Brandy	gallons (including overproof)		978,860
Geneva	gallons (including overproof)		345,581
Sugar, unrefined, viz. :—			
Of British Possessions, viz. :—America		cwt.	12
——————— Mauritius		cwt.	9,935
——————— The East Indies		cwt.	8,867
Foreign		cwt.	785,210
Sugar . Foreign, refined		cwt.	57,484
Candy		cwt.	1,108
Tea		lb.	4,718,138
Tobacco, Unmanufactured		lb.	11,519,140
Foreign, Manufactured, and Snuff		lb.	1,147,955
Wine, viz. :—Cape		gallons	1,242
French		gallons	119,077
Other sorts		gallons	1,377,475
Wool, Cotton		cwt.	669,235
Sheep and Lamb's		lb.	4,809,725

AN ACCOUNT of the NUMBER and TONNAGE of VESSELS, distinguishing the Countries to which they belonged, which entered inwards and cleared outwards, in the year ended 5th January, 1848, stated exclusively of Vessels in Ballast, and of those employed in the Coasting Trade or the Trade between Great Britain and Ireland.

Countries to which the Vessels belonged.	Entered Inwards.		Cleared Outwards.	
	Ships.	Tonnage.	Ships.	Tonnage.
United Kingdom and its Dependencies	18,771	4,238,956	15,535	3,205,794
Russia	330	80,420	166	42,600
Sweden	518	68,355	381	46,091
Norway	1,316	208,192	568	64,538
Denmark	1,701	129,107	1,626	125,626
Prussia	1,351	276,563	878	153,064
Other German States	1,765	174,019	1,687	165,614
Holland	694	58,445	745	72,754
Belgium	241	34,246	278	41,689
France	856	49,623	2,428	204,813
Spain	220	28,202	142	19,475
Portugal.....	82	8,466	38	4,277
Italian States.....	369	89,604	195	44,956
Other European States	24	5,526	11	2,571
United States of America ..	1,303	636,324	879	518,293
Other States in America, Africa, or Asia	20	5,004	7	2,086
Total	29,561	6,091,052	25,564	4,719,241

AN ACCOUNT of the NUMBER and TONNAGE of VESSELS which entered inwards and cleared outwards with Cargoes, at the several Ports of the UNITED KINGDOM, during the year ended 5th January, 1848; distinguishing the Vessels employed in the intercourse between Great Britain and Ireland from other Coasters.

	Entered Inwards.		Cleared Outwards.	
	Ships.	Tonnage.	Ships.	Tonnage.
Employed in the Intercourse between Great Britain and Ireland	8,085	1,296,610	17,935	2,047,387
Other Coasting Vessels....	134,440	10,923,186	140,987	11,218,238
Total	142,525	12,219,796	158,922	13,265,625

The NUMBER and TONNAGE of BRITISH VESSELS WRECKED, in the year ending Dec. 31, 1847, were: Sailing Vessels, 533; Tonnage, 95,990: Steam Vessels, 4; Tonnage, 1,037.

RETURN of the SHIPPING employed in the Trade of the UNITED KINGDOM, exhibiting the Number and Tonnage of Vessels that entered Inwards and cleared Outwards (including their repeated Voyages), separating British from Foreign Vessels, and distinguishing the Trade with each Country, in the Year 1847.

	Inwards.				Outwards.			
	British.		Foreign.		British.		Foreign.	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
Europe; viz.—								
Russia	2,771	541,338	752	128,737	1,924	378,130	539	92,086
Sweden	51	7,037	719	117,918	53	8,145	431	57,196
Norway	28	2,318	903	128,075	35	3,399	1,105	155,902
Denmark	147	20,462	1,726	116,382	290	48,523	2,989	288,436
Prussia	625	88,390	1,688	303,225	631	92,947	1,322	241,899
Germany	1,141	241,579	1,451	148,066	1,309	271,000	1,743	166,731
Holland	1,726	279,778	1,098	102,051	1,589	252,038	822	70,510
Belgium	807	114,344	666	94,155	661	92,392	458	63,064
France	4,822	554,065	3,488	286,798	4,846	590,057	3,205	257,266
Portugal, Azores, &c.	774	76,236	85	8,033	752	82,141	218	35,481
Spain and Canaries	782	73,211	182	19,185	919	122,189	272	41,685
Gibraltar	50	11,623	..	..	181	30,128	15	2,733
Italian States	626	97,292	270	66,053	630	108,960	262	59,222
Malta	187	33,554	17	3,789	313	61,178	61	14,799
Ionian Islands	100	13,101	..	..	82	13,478	5	798
Greece	79	11,395	6	1,522	80	12,356	14	2,754
Turkey	410	78,178	61	15,112	421	88,595	179	45,281
Moldavia, &c.	305	45,291	130	24,086	249	35,612	14	2,729
Syria	8	1,037	..	..	31	4,693	—	—
Africa	748	203,812	31	6,983	581	168,710	90	19,656
Asia	837	379,529	6	2,774	796	379,104	36	16,692
America; viz.—								
British N. Colonies	2,459	953,466	9	3,274	2,174	829,809	29	6,331
West Indies	848	243,388	..	..	918	268,790	—	—
Foreign West Indies	363	99,415	84	17,697	293	80,760	199	47,886
United States	997	437,095	1,361	651,189	1,002	455,220	1,143	597,257
Mexico	19	10,632	1	150	13	7,759	1	153
Central & Southern States	617	174,237	21	4,736	499	159,762	104	26,246
Falkland Islands	..	..	..	..	1	135	—	—
Whale Fisheries	64	18,392	..	..	45	12,960	—	—
Channel Islands	1,626	131,899	34	3,049	1,351	110,400	—	—
Total	24,017	4,942,094	14,789	2,253,939	22,669	4,770,370	15,256	2,312,793

The NUMBER of VESSELS registered in all the Ports of Great Britain and Ireland, on Dec. 31, 1847, was: in Great Britain, Sailing Vessels 7,716, of a Tonnage under 50, amounting to 223,835 tons; above 50 tons, 13,450, with a Tonnage of 2,648,597. Steam Vessels, under 50 tons, 433, Tonnage 10,376; above 50 tons 491, tonnage 105,989. Ireland: Sailing Vessels under 50 tons 1,075, Tonnage 30,717; above 50 tons 1,140, Tonnage 211,072; Steam Vessels, under 50 tons 12, Tonnage 417; above 50 tons 92, Tonnage 23,350. Isles of Guernsey, Jersey, and Man: Sailing Vessels under 50 tons, 442, Tonnage, 10,398; above 50 tons, 344; Tonnage, 42,294; Steam Vessels under 50 tons 1, Tonnage 39; above 50 tons 4, Tonnage 837.

The TOTAL NUMBER and TONNAGE of VESSELS entered and cleared COASTWISE, between Dec. 31, 1846, and Dec. 31, 1847 (including their repeated voyages) was: Great Britain, Sailing Vessels, inwards 125,917; Tonnage, 9,081,471: outwards, 142,130; Tonnage, 10,209,972. Steam Vessels: inwards, 13,868; Tonnage, 2,954,675: outwards, 13,860; Tonnage, 2,885,168. Ireland: Sailing Vessels, inwards 16,901; Tonnage, 1,235,417: outwards, 7,921; Tonnage, 516,805. Steam Vessels, inwards 3,350; Tonnage, 948,241: outwards, 3,436; Tonnage, 971,821. Isle of Man: Sailing Vessels, inwards, 1,294; Tonnage, 39,813: outwards, 601; Tonnage, 19,642. Steam Vessels: inwards, 338; Tonnage, 49,985: outwards, 201; Tonnage, 29,713.

The NUMBER and TONNAGE of VESSELS that entered and cleared from and to the COLONIES, in the same period (including their repeated voyages) were as follows: at Ports in Great Britain: Sailing Vessels, British, inwards, 5,414; Tonnage, 1,609,454: Foreign, 54; Tonnage, 9,099. At Ports in Ireland: British, 499; Tonnage, 120,734: Foreign, 8; Tonnage, 1,927. At Isle of Man and Channel Islands, British, 28; Tonnage, 3,306. Outwards, from Ports in Great Britain: British, 5,066; Tonnage, 1,505,793: Foreign, 81; Tonnage, 21,590. From Ports in Ireland: British, 647; Tonnage, 176,955: Foreign, 47; Tonnage, 10,782. Channel Islands: British, 45; Tonnage, 5,523. Steam Vessels, British: inwards, 318; Tonnage, 65,007: outwards, 271; Tonnage, 62,552.

The NUMBER and TONNAGE of SHIPS laden with COAL, CULM, and CINDERS, in the year ending Dec. 31, 1847, were, British, 7,781, carrying 1,548,582 Tons of Coal; 68.280, of Cinders; and 1,348, of Culm: Foreign, 6,533 ships, carrying 827,023 tons of Coal; 19,311 tons of Cinders, and 3,149 tons of Culm. The Duty paid by the Foreign Vessels amounted to £4,091.

The Number of Acres of HOPS in England, in 1847, was 52,327½; the Number of Pounds weight charged in the Duty was 45,134,365; the Total Amount of Duty was 394,923. The Quantity of MALT made between Oct. 10, 1846, and Oct. 10, 1847, was England 3,690,003 qrs.; Scotland, 477,025 qrs.; Ireland, 178,369 qrs.; Total, 4,345,397 qrs. The Total Quantity used in the same period was 3,663,988 qrs. In the same period, the Total Number of BREWERS licensed was, in England, 2,184; Scotland, 174; Ireland, 109; Total, 2,467. The Number of LICENSED VICTUALLERS was, England, 58,725; Scotland, 15,903; Ireland, 15,224; Total, 89,852. Of Persons licensed to sell Beer, to be drunk on the premises, England, 34,627; not to be drunk on the premises, 3,463.

An Account of the number of Proof Gallons of Rum, distinguishing West India, East India, and Foreign; also, of Brandy, Geneva, and other Foreign, Colonial, or Jersey Spirits Imported; of the Quantities upon which Duty has been paid for Home Consumption, the Quantities Exported, and the Quantities Shipped as Stores, and used by the Navy, for the year ended 5th day of January, 1848.

United Kingdom.	Imported.	Retained for Home Consumption.	Exported.	Shipped as Stores.	Delivered for use of Navy.
Rum: — Of British Possessions, viz.:—	Gallons, including Overproof.	Gallons, including Overproof.	Gallons, including Overproof.	Gallons, including Overproof.	Gallons, including Overproof.
West India and Mauritius	5,321,741	2,870,098	588,625	88,847	183,454
East India	839,207	265,539	22,946	45,916	183,342
West India, Mauritius and East India vatted together		193,286	49,896	79,755	
Foreign	481,959	62	100,659	675	
Of British & Foreign Possessions vatted together			203,488	1,033	
All Sorts	6,642,907	3,328,985	974,614	216,232	366,796
Brandy	2,728,471	1,537,238	978,860	96,226	
Geneva	382,271	28,800	345,581	23,243	
Other Foreign and Colonial Spirits	91,897	8,028	106,112	239	
Spirits mixed in Bond		2	236,602	46	
Spirits of the Channel Islands		2,212	324		
Total	9,845,546	4,905,295	2,692,093	335,986	366,796

An Account of the Total Number of Gallons of Proof Spirits permitted out of Distillers' Stocks in England, and the Total Number of Proof Gallons of British Brandy and Spirits of Wine permitted out of Rectifiers' Stocks in England; also, the Total Quantity of Proof Gallons of Rum received into Rectifiers' Stocks in England, for the year ending 5th January, 1848.

Year ending 5th January.	England.			
	Gallons of Proof Spirits permitted out of Distillers' Stocks.	Proof Gallons permitted out of Rectifiers' Stocks.		Proof Gallons of Rum received into Rectifiers' Stocks.
		British Brandy.	Spirits of Wine.	
1848	5,283,103	317,246	227,401	95,032

AN ACCOUNT of the Number of Gallons of FOREIGN WINE imported, of the Quantities upon which Duty has been paid for Home Consumption, and the quantities exported; also the Quantities retained for Home Consumption, after deducting the Amount exported subsequently to the Payment of Duty, for the year ended the 5th day of January, 1848, distinguishing Cape, French, Portugal, Spanish, Madeira, Rhenish, Canary, Fayal, Sicilian, and other Sorts.

United Kingdom.	Imported.	Upon which Duty has been paid.	Exported.	Retained for Home Consumption.
	Gallons.	Gallons.	Gallons.	Gallons.
Cape	323,124	293,375	1,242	293,016
French	549,118	425,158	119,077	397,329
Portugal	2,685,157	2,440,925	301,718	2,360,851
Spanish	3,407,078	2,488,116	657,454	2,372,178
Madeira	201,096	95,331	100,506	81,349
Rhenish	67,207	58,128	8,177	55,774
Canary	133,362	23,934	152,791	22,921
Fayal	23	43	. .	43
Sicilian and other Sorts	571,902	486,450	133,949	470,386
Mixed, in Bond	. .	. .	22,880	—
Total	7,938,067	6,311,460	1,497,794	6,053,847

AN ACCOUNT of the Total Number of Gallons of PROOF SPIRITS distilled in Scotland and Ireland, distinguishing the Quantities in each Country delivered Duty-paid direct from Distillers' Stocks from the Quantities put into the Bonded Warehouses, for the year ended the 5th day of January, 1848.

——	NUMBER OF GALLONS.		
	Distilled.	Delivered, Duty Paid, direct from Distillers' Stocks.	Put into the Bonded Warehouses.
Scotland	8,542,219	3,556,252	4,985,967
Ireland	5,737,687	1,876,503	3,861,184
Year ended January 5, 1848	14,279,906	5,432,755	8,847,151

AN ACCOUNT of the Quantity of QUASSIA Imported in each of the Years ending the 5th day of January 1844, 1845, 1846, 1847, and 1848, respectively; also, the Quantity entered for Home Consumption in each of such Years respectively.

	Imported.			Retained for Home Consumption.		
	Cwt	qrs.	lbs.	Cwt.	qrs.	lbs.
Year ending 5th January 1844	3,425	2	18	538	3	19
,, ,, 1845	0	2	4	183	3	6
,, ,, 1846	19	3	17	73	3	18
,, ,, 1847	99	0	20	166	0	19
,, ,, 1848	153	1	11	144	3	0

ABSTRACT of RETURN of the Number of SHIPS laden with FOREIGN CORN entered Inwards at the Ports of the United Kingdom, between the 5th day of January 1847, and the 5th day of January 1848; specifying the Kinds and Quantities of Corn, and whether in British or Foreign Ships.

	Imported in British Ships.	Imported in Foreign Ships.	Total.
	Qrs.	Qrs.	Qrs.
Wheat	1,380,163	1,204,542	2,584,705
Barley	250,875	496,171	747,046
Oats	796,026	836,438	1,632,464
Beans and Peas	408,556	188,044	596,600
Maize	1,749,068	1,686,990	3,436,058
Rye	1,466	13,373	14,839
Buck Wheat..	2,171	11,814	13,985
Total....	4,588,325	4,437,372	9,025,697
	Cwts. qrs. lbs.	Cwts. qrs. lbs.	Cwts. qrs. lbs.
Flour and Meal	2,941,131 3 13	4,120,728 0 23	7,061,860 0 8

ACCOUNT showing the NATIONS to which the SHIPS importing CORN belonged.

United Kingdom	4,742
Austria	233
Belgium.....	30
Brazil	1
Denmark	1,378
France	168
German States	986
Greece	16
Holland	295
Ionian Islands	2
Italian States.....	66
Malta	1
New Grenada.....	1
Norway	142
Portugal.....	44
Prussia	410
Russia	94
Spain	82
Sweden	202
Turkey	2
United States of America	1,121
Venezuela	1
Wallachia and Moldavia	2
Number of British Ships employed	4,742
Number of Foreign Ships employed	5,277
Total....	10,019

Of CHEESE, in the year 1847, there was imported from Europe 245,067 cwts.; from the United States, 109,322 cwts.; from British possessions, 413 cwts.: Total 354,802 cwts., of which 4834 cwts. were re-exported.

Of HAMS there were imported 4699 cwts., of which 3964 cwts. were returned for home consumption, paying a duty of 1,135*l.* Of BACON there were imported 48,340 cwts. Of SALTED BEEF, 46,671 cwts. Of SALTED PORK, 114,588 cwts.

Of COTTON the imports from all parts amounted, in the year 1847, to 474,707,615 lbs. The exports of COTTON MANUFACTURES, including twist and yarn, were — Cotton Goods, 942,540,160 yards; declared value, 16,207,103*l.* Small Wares, declared value, 816,158*l.* Cotton Thread, 3,469,333 lbs.; declared value, 351,983*l.* Cotton Twist and Yarn, 120,270,241 lbs.; declared value, 5,957,980*l.* Total declared value, 23,333,224*l.*

The declared value of SILK MANUFACTURES exported in 1847 was 985,626*l.*

ACCOUNT of FOREIGN IRON and UNWROUGHT STEEL imported and exported in the year ending April 5, 1848.

	Imported.				Exported.			
	tons.	cwt.	qr.	lb.	tons.	cwt.	qr.	lb.
Iron ore	21	18	0	19		..		
Chromate of Iron	1797	7	1	15		..		
Iron in Pigs	473	1	3	17		..		
Iron in Bars, unwrought	33,317	2	3	18	5053	9	1	16
Bloom Iron	904	19	1	22		..		
Iron slit or hammered, in rods	3	9	3	11		..		
Old Broken and Cast Iron	310	1	3	24		..		
Iron Hoops	12	15	3	19		..		
Cast Iron	41	5	3	17		..		
Steel unwrought	654	16	2	24	667	17	1	12
Iron and Steel scraps	36	12	1	20		..		
Steel, wrought (entered by weight)	72	15	1	0	72	15	1	0
Ditto (entered by value)	£23,510	16*s.*	7*d.*		£7875	0*s.*	0*d.*	

The BRITISH IRON (including unwrought Steel) exported in the year ending January 5, 1848, was

Pig Iron	176,086	5	1	15
Bar Iron	214,874	11	2	9
Bolt and Rod Iron	13,419	6	3	13
Cast Iron	26,321	7	1	5
Iron Wire	1972	17	1	24
Wrought Iron Anchors, Grapnels, &c.	4561	16	3	20
Hoops	17,163	10	2	21
Nails	5735	2	0	0
Other sorts (except Ordnance)	74,036	2	0	10
Old Iron for re-manufacture	5571	1	0	8
Unwrought Steel	9786	18	0	7

The quantity of BRITISH HARDWARE and CUTLERY exported was 20,614 tons 11 cwts. 10 lbs., of the declared value of 2,341,980*l.* 11*s.* 1*d.* The quantity of BRITISH MACHINERY and MILL-WORK exported was of the declared value of 1,263,015*l.* 10*s.* 4*d.*

ACCOUNT of the Imports into and Exports from the United Kingdom of LEAD and LEAD ORE, COPPER and COPPER ORE, TIN, ZINC, and ZINC ORE, in the year ending January 5, 1848.

LEAD AND LEAD ORE.

Imported.	tons.	cwts.	qrs.	lbs.
Pig and Sheet Lead	3,931	13	3	16
Lead Ore	507	8	0	25
White Lead	40	19	1	27

Exported.	British.				Foreign.			
Lead ore	85	19	5	0	22	0	0	0
Pig and Rolled Lead	8,258	11	3	21	3,462	3	0	18
Shot	1,176	13	1	5	..			
Litharge	327	13	2	2	..			
Red Lead	839	14	1	8	..			
White Lead	1,389	4	2	5	17	13	2	10

COPPER.

Imported.				
Ore	41,490	10	0	19
Unwrought, in Bricks, &c., and Cast Copper	513	5	1	0
Old, for re-manufacture	65	2	0	20
Part Wrought, in Bars, Rods, &c.	336	9	2	1
Plates and Coin	59	19	0	27
Manufactures (entered by weight)	42	15	0	1
(entered by value)..	£4,351	5*s.*		

The total exports of British Copper amounted to 15,141 tons 10 cwt. 2 qr. 27 lb.: of Foreign Copper, to 42 tons 15 cwt. 1 qr., and 698*l.* entered by value.

TIN.

The quantity of Tin imported was 1,165 tons 7 cwt. 4 lb., with 9 cwt. 2 qr. 11 lb. of Tin Ore and Regulus. The exports of British Tin were 1,741 tons 1 cwt. 3 qr. 21 lb.; and of Foreign Tin, 573 tons 10 cwt. 2 qr. 23 lb.

ZINC.

The total import of Zinc was 12,768 tons 18 cwt. 3 qr. 23 lb. The export was of British Zinc 886 tons 2 cwt. 1 qr. 1 lb.; of Foreign Zinc, 3,346 tons 5 cwt. 1 qr. 24 lbs.

QUANTITIES of SOAP made in Great Britain, and the Quantities Imported and Exported.

	Silicated. lb.	Hard. lb.	Soft. lb.
Made in England	1782,113	146,548,120	8,809,487
Scotland	172,910	13,517,521	5,469,938
Total	1,955,023	160,065,641	14,279,425

	Hard. cwt.	Soft. cwt.	Naples. cwt.
Imported	1,023	39	19

	lb.	lb.
Exported to Foreign Parts	10,221,842	8,319
Ireland	9,536,691	167,360

11,311,631 lb. of Hard Soap, and 9,466,558 lb. of Soft Soap, were used by manufacturers of Woollens, Silk, Flax, and Cotton, on which a drawback of 87,881*l.* was allowed.

RETURN of the Quantities of GLASS Imported into and Exported from the United Kingdom, in the year ending January 5, 1848 (omitting fractions).

		Imported.	Exported.
Window Glass, white, or stained of one colour, not exceeding one-ninth of an inch in thickness, and shades, and cylinders	cwt.	35,117	30,831
All Glass exceeding one-ninth of an inch in thickness, and all silvered or polished Glass.	sup.sq.ft.	133,063	21,520
Glass painted or otherwise ornamented	do.	598	14
Wine Glasses, Tumblers, and all Flint Glass Goods, not cut or otherwise ornamented	lb.	165,764	147,881
Ditto cut, and fancy ornamental Glass	lb.	378,933	167,607
Plain White Flint Glass Bottles	lb.	95,531	55,608
Glass Manufactures, not otherwise described, (except green or common bottles)	cwt.	149	5
British Flint Glass.....	cwt.	..	17,858
Window Glass	cwt.	..	29,084
Plate Glass.....	sup.sq.ft.	..	41,879
Common Glass Bottles	cwt.	..	227,844
Looking Glasses and Mirrors, declared value		..	£5767

IV.—*Crime and Law.*

NUMBER of PERSONS COMMITTED for TRIAL or BAILED, in England and Wales, and Ireland, in the Year 1847.

—	Offences.	Convictions. Death.	Transportation for various periods.	Imprisonment and all lighter Punishments.	Insane.	Acquitted and discharged.	Execution of Capital Sentences. Executed.	Transportation for various periods.	Imprisonment for various periods.	Free Pardons.
ENGLAND AND WALES.										
Offences against the Person	2,023	37	88	1,160	19	719	8*	26	2	—
Offences against Property with violence	1,732	14	548	762	2	406	—	12	2	—
Ditto without violence	23,571	—	2,041	15,863	17	5,650	—	—	—	—
Malicious offences against Property	186	—	34	35	1	116	—	—	—	—
Forgery and offences against the currency	525	—	72	359	1	93	—	—	—	—
Other offences	796	—	23	505	—	267	—	—	—	—
	28,833	51	2,806	18,685	40	7,251	8*	38	4	—
IRELAND.										
Offences against the Person	4,549	23	92	1,502	15	2,932	8	17†	10	9
Offences against Property with violence	2,229	2	407	584	—	1,236	—	3	4	5
Ditto without violence	17,484	—	1,415	8,687	5	7,382	—	1	51	77
Malicious offences against Property	321	—	74	66	—	181	—	—	1	3
Forgery and offences against the currency	183	—	9	78	—	96	—	—	—	1
Other offences	6,443	—	188	2,106	4	4,149	—	2	18	19
	31,209	25	2,185	13,023	24	15,976	8	23	84	114

COUNTY COURTS.—From the time these Courts came into operation to Dec. 31, 1847, there were 429,215 plaints entered; of which 31,443 were for sums above £10; 41,617 for sums between £5 and £10; 99,595 for sums between £2 and £5; 95,518 for sums between £1 and £2; and 161,042 for sums not exceeding £1. Of the number entered 267,445 were tried. The total amount of money received was £600,559; of which £82,652 were Judges' fees; £73,777 Clerks' fees; £46,889 Bailiffs' fees; £52,117 went to the general fund; and £345,122 to the Suitors' fund.

* One prisoner convicted of murder committed suicide.
† These include commutations of sentences, not capital.

V.—*Poor Law and Police.*

A RETURN, showing the Population, the Annual value of Property rated to the Poor's Rates, the Expenditure for the Relief and Maintenance of the Poor, the Rate in the Pound on the value of Rated Property of such Expenditure, the total number of Paupers Relieved, including Casual Poor, the proportion per Cent. to the Population of the Persons Relieved, and the Rate per Head of the Expenditure on the total number of Paupers Relieved, for England and Ireland, for the Year ending the 25th day of March, 1847, and for Scotland for the Year ending the 14th day of May, 1847.

	Population in 1841.	Annual Value of Property Rated.	Expenditure for the Relief and Maintenance of the Poor.	Rate in the Pound of Expenditure for Relief, &c.	*Total number of Paupers Relieved, including Casual Poor.	Proportion per Cent.	Rate per Head of Expenditure.
		£	£	*s.* *d.*			£ *s.* *d.*
England and Wales	15,906,741	67,291,171	5,298,787	1 7	†1,721,350	10·8	3 1 6¾
Ireland	8,175,124	13,187,421	567,897	10¼	333,019	4·0	1 14 1¼
			For the Year ended May 14, 1847 :				
Scotland†	2,620,216	9,320,784	433,915	11·1	146,370	5·5	2 19 3¼

*These returns are for the quarter ended Lady-day, 1847. An Estimate is made from unions and places from which no returns were received.

† Of this number of persons relieved during the quarter ended Lady-day, 1847, a large proportion were permanent paupers; but the absolute accuracy of these returns cannot be relied upon, owing to the difficulty of preventing the same person, if he becomes chargeable on several occasions or in different unions, from being reckoned more than once.

‡ There are no Parliamentary documents which show the annual value of property rated to the Poor's Rates in Scotland. The sums given under this head show the annual value of real property in Scotland according to returns laid before Parliament for the year 1843; but the annual value of means and substance liable to be assessed for the poor in certain parishes cannot be ascertained. In addition to their allowances, paupers in Highland parishes are for the most part accommodated with cottages and garden ground rent free.

RETURNS of the number of IRISH POOR who, between Dec. 31, 1846, and Dec. 31, 1847, have received Relief out of the Poor Rates in the following places, and of the money value of the Relief so afforded.

	Number Relieved.	Total Cost in Money. £	s.	d.
City of London :—				
City of London Union	no separate account.			
East London Union	2,768	1,561	2	10
West London Union	2,872	1,632	7	7
Borough of Marylebone :—				
St. Marylebone Parish	7,864	3,437	0	6
St. Pancras Parish	9,660	1,813	4	0
Paddington Parish	74	43	13	2
City of Westminster :—				
Strand Union	1,118	492	1	9
St. George's, Hanover-square, Parish	4,000*	150	0	0
St. James's Parish	1,600	337	0	7
St. Margaret's and St. John's Parish		—		
St. Martin-in-the-Fields Parish	11,574	144	13	6
Borough of Southwark :—				
Rotherhithe Parish	272	161	13	3
Bermondsey Parish	571	144	1	9
St. Olave's Union	2,536	517	0	4
St. Saviour's Union	1,183	960	3	10
St. George the Martyr Parish	1,446	277	0	3
Borough of Lambeth :—				
St. Mary, Newington, Parish	231	275	10	7
Camberwell Parish	326	216	2	4
Lambeth Parish	1,495	518	6	6
Borough of Tower Hamlets :—				
Bethnal Green Parish	53	104	16	8
St. George-in-the-East Parish	5,941	2,453	16	3
Hackney Union	52	3	4	0
Poplar Union	879	666	1	4
Stepney Union	7,783	2,528	12	1
Shoreditch Parish	1,847	358	3	8
Whitechapel Union	6,253	1,658	11	11
Borough of Finsbury :—				
St. Luke's Parish	no separate account.			
St. Giles-in-the-Fields and St. George, Bloomsbury	4,974	4,508	10	6
St. Mary, Islington	682	126	7	8
Clerkenwell Parish	no separate account.			
Holborn Union	2,765	1,167	19	6
Borough of Liverpool :—				
Liverpool	47,194†	20,750	6	4
City of Glasgow :—				
City of Glasgow Parish	17,864	20,831	13	9
Barony Parish	13,952	9,092	4	0

No returns from the other two parishes.

The total Amount of Receipts for the SERVICE of the METROPOLITAN POLICE for the year ending December 31, 1847, was 391,795*l.* 8*s.* The total expenditure was 329,208*l.* 5*s.* 1*d*; the balance in hand was 62,587*l.* 2*s.* 11*d.* The total Number of Persons employed was 4910. The different items of division are nearly the same as those of last year.

* Estimated at this number.

† Estimated number.

VI.—*Miscellaneous.*

AN ACCOUNT showing the NUMBER and AMOUNT of MONEY ORDERS Issued and Paid throughout the United Kingdom during the Year ending Jan. 5, 1848 (distinguishing the Transactions of the Country Towns from those of the Chief and other Offices within the Three-mile Circle).

	Orders Issued.		Orders Paid.	
	Number.	Amount.	Number.	Amount.
		£.		£.
ENGLAND and WALES:				
Country Towns ..	2,816,824	5,671,827	2,183,609	4,389,562
Chief and other Offices within the Three-mile Circle	468,567	928,321	953,079	2,035,617
IRELAND:				
Country Towns	272,874	452,337	440,101	629,316
Dublin	70,282	133,117	105,608	177,455
SCOTLAND:				
Country Towns	353,267	617,336	273,447	528,970
Edinburgh	48,387	99,728	72,364	137,903
TOTAL	4,030,211	7,902,666	4,028,808	7,898,823

The amount of Commission received in the above was £67,376; the Expenses amounted to £77,976.

COST of a Journey, by QUEEN'S MESSENGER, direct from London to the following Capitals of Europe, including Mileage (from Report of Miscellaneous Expenditure).

		£	s.	d.
Berlin, by Dover and Calais	844 miles	70	9	9
Brussels, by Dover and Calais	277 „	19	2	0
Constantinople, by Vienna	2,192 „	268	15	3
Copenhagen, by Hamburgh and Lubeck	626 „	18	18	10
Florence, by Paris and Turin	1,155 „	118	7	6
Frankfort, by Dover and Calais	549 „	45	15	3
The Hague, by Rotterdam	222 „	7	1	6
Lisbon, by Southampton	1,015 „	30	3	5
Madrid, by Paris	1,262 „	123	4	0
Naples, by Paris, Turin, Florence, and Rome	1,553 „	161	10	6
Paris, by Dover and Calais	287 „	20	3	5
Rome, by Paris, Turin, and Florence	1,377 „	141	12	6
St. Petersburgh, by Hamburgh and Lubeck:—				
Water station	1,283 „	36	19	8
St. Petersburgh, by Berlin	1,964 „	165	18	3
Stockholm, by Hamburgh and Lubeck	975 „	24	18	3
Turin, by Paris	852 „	83	4	0
Vienna, by Dover, Calais, and Frankfort	1,062 „	86	3	9

RETURN of the Total Expense incurred for the PACKET SERVICE in the Year 1847.

	Gross.			Receipts.			Net.		
UNITED KINGDOM:	£.	s.	d.	£.	s.	d.	£.	s.	d.
Mail Steam-packets on the Home Stations	84,956	13	11	10,431	9	5	74,525	4	6
Contract Packet Service in 1847	13,500	0	0	.	.		13,500	0	0
TOTAL	98,456	13	11	10,431	9	5	88,025	4	6
UNITED KINGDOM AND PARTS ABROAD:									
Mail Steam-packets on the Home Stations.....	21,949	11	7	10,639	1	5	11,310	10	2
Her Majesty's Steam-vessels employed as Packets Abroad	47,139	0	0	2,437	0	0	44,702	0	0
Her Majesty's Sailing Vessels employed as Packets Abroad	19,459	0	0	.	.		19,459	0	0
Contract Packet Service in 1847	538,084	0	0	.	.		538,084	0	0
TOTAL.....	626,631	11	7	13,076	1	5	613,555	10	2
TOTALS, as above ..	98,456	13	11	10,431	9	5	88,025	4	6
GRAND TOTAL ..	725,088	5	6	23,507	10	10	701,580	14	8

BY an ANALYSIS of the Returns furnished by the Commissioners of RAILWAYS, it appears that 110 persons were killed and 74 injured, on all the Railways of Great Britain and Ireland, during the six months ending the 31st of December, 1847. Of these there were

5 passengers killed, and	39 injured from causes beyond their own control.
3 passengers killed, and	3 injured, owing to their own misconduct or want of caution.
9 servants of companies or of contractors killed, and ..	8 injured from causes beyond their own control
56 servants of companies or of contractors killed, and ..	19 injured owing to their own recklessness, or want of caution.
36 trespassers and other persons, neither passengers nor servants, killed and	5 injured by improperly crossing, or standing on the railway.
1 suicide.	

And for the same period the number of Passengers amounted to 31,734,607. The miles run are not given in this return.

ABSTRACT of GRANTS for MISCELLANEOUS SERVICES, from 1841 to 1847, with the Estimate for 1848.

	1841.	1842.	1843.	1844.	1845.	1846.	1847.	Estimate for 1848.
	£	£	£	£	£	£	£	£
Class I.								
Public Works and Buildings..	233,923	300,828	316,271	279,145	465,609	462,934	589,253	483,976
Class II.								
Salaries, &c. Public Departments	722,471	730,321	776,852	737,150	741,140	826,889	976,170	1,043,295
Class III.								
Law and Justice	828,741	804,561	834,821	871,342	772,618	880,089	1,036,338	1,032,727
Class IV.								
Education, Science, and Art..	204,077	207,999	219,867	283,084	300,288	325,908	351,243	397,520
Class V.								
Colonial and Consular Services	353,900	397,390	406,836	459,651	465,589	407,785	419,448	426,367
Class VI.								
Superannuations and Charities	186,981	186,264	187,319	189,449	175,727	179,185	187,349	176,458
Class VII.								
Special and Temporary Objects	254,915	214,736	89,866	85,927	95,079	299,636	122,812	110,084
Civil Contingencies	120,000	130,000	110,000	100,000	100,000	100,000	100,000	100,000
	2,905,008	2,972,097	2,941,832	3,005,748	3,116,050	3,482,426	3,782,613	3,770,427

A RETURN showing the TOTAL RECEIPTS, EXPENDITURE, and DEBTS of TURNPIKE TRUSTS in England (exclusive of Wales) for Twelve Years (1834 to 1845 inclusive).

Date.	Receipts.		Expenditure.			Debts.	
	Tolls.	Total Receipts, including Statute Labour and Highway Rates, Money borrowed, & other Receipts.	Repairs.	Improvements	Total Expenditure, including Salaries, Law Charges, Interest of Debt, Bonded Debt paid off, and Other Payments.	Bonded Debt.	Unpaid Interest.
	£	£	£	£	£	£	£
1834	1,364,285	1,656,417	796,419	190,267	1,604,246	6,655,484	964,249
1835	1,402,784	1,701,483	817,549	193,400	1,681,411	6,688,555	976,229
1836	1,449,568	1,679,525	860,231	187,665	1,683,752	6,735,128	989,120
1837	1,469,979	1,655,448	904,287	198,515	1,698,823	6,803,541	1,009,735
1838	1,450,707	1,586,342	844,862	143,207	1,587,662	6,799,469	1,077,938
1839	1,452,750	1,577,764	862,481	129,863	1,573,942	6,766,119	1,147,292
1840	1,416,059	1,562,895	833,625	149,736	1,567,855	6,792,148	1,196,606
1841	1,358,890	1,485,680	797,456	95,150	1,463,184	6,785,141	1,231,202
1842	1,296,401	1,440,984	781,077	105,906	1,444,720	6,770,252	1,277,910
1843	1,277,056	1,393,074	721,537	80,724	1,354,590	6,706,560	1,320,893
1844	1,260,929	1,359,957	691,559	57,189	1,330,544	6,626,869	1,338,366
1845	1,260,422	1,357,735	661,436	58,653	1,296,176	6,524,169	1,383,983

There are 1108 Turnpike Trusts in England and Wales—1063 in England, and 45 in Wales. The Length of Roads in England is 19942 miles and 148 yards; and in Wales, 2382 miles, 2 furlongs, and 197 yards; making, in England and Wales, 22,324 miles, 3 furlongs, and 125 yards.

A Return of the Number of Visitors to the British Museum in the Year 1847.

To the General Collection	820,965
To the Reading Room	67,525
To the Galleries of Sculpture	3,508
To the Print Room	4,572

Number of Letters Patent for Inventions granted for England, Scotland and Ireland, in the Years 1845, 1846, and 1847, with the total amount of Expenses on the same in each Year.

	1845.	1846.	1847.
English Patents.....	575	494	498
Scotch Patents	205	178	168
Irish Patents	99	89	74
Total	879	761	740
Charge ..	£39,259	£34,103	£37,977

A Return of the Number of Insolvent Debtors in each Year between 1820 and 1846, both inclusive.

Year.	Number.	Year	Number.
1820.....	5,183	1834.....	5,116
1821.....	5,611	1835.....	4,624
1822.....	5,587	1836.....	4,757
1823.....	4,738	1837.....	5,206
1824.....	4,503	1838.....	5,254
1825.....	4,399	1839.....	3,676
1826.....	4,490	1840.....	4,667
1827.....	5,665	1841.....	5,103
1828.....	4,571	1842.....	5,352
1829.....	5,117	1843.....	4,461
1830.....	5,186	1844.....	2,905
1831.....	5,261	1845.....	1,292
1832.....	5,535	1846.....	1,461
1833.....	5,086		

Number of Marriages, Births, and Deaths Registered in England in the year 1846.

	Males.	Females.	Total.
Persons married.....	145,664	145,664	291,328
Births.....	293,146	279,479	572,625
Deaths.....	198,325	191,990	390,315
Excess of Births over Deaths.....			182,310
Emigrants from United Kingdom			129,851

XIV. — CHRONICLE OF THE SESSION OF PARLIAMENT, 1847, 1848.

[11—12 Victoriæ.]

Nov. 18. (Lords.) The Lords Commissioners having taken their seats, and the Commons having been summoned, the commission opening the new Parliament was read.

(Commons.) The Commons then retired and unanimously re-elected Mr. Shaw Lefevre as Speaker.

Nov. 19. (Lords.) The Speaker of the Commons having appeared on summons, attended by several members of the Lower House, the Marquess of Lansdowne, as one of the Lords Commissioners, announced to the Speaker her Majesty's concurrence in his election. The Speaker returned thanks, and made the usual demand of the recognition of all the rights and privileges of the Commons. The Lord Commissioner intimated her Majesty's recognition of these privileges, and the Speaker withdrew.

(Commons.) The Speaker announced her Majesty's approval of his election, and the recognition by her Majesty of all the rights and privileges of the Commons; he then took the oath tendered to him by the chief clerk of the House: after this the swearing of the new members commenced, taking the counties in alphabetical order.

Nov. 23. (Lords.) The Session of Parliament was formally opened by royal commission. The Marquess of Lansdowne read her Majesty's speech, which having expressed her Majesty's satisfaction that it had not been necessary to adopt the departure from the Bank Charter Act of 1844 recommended by ministers, and that the alarm in the money market and the pressure on the commercial interests of the country had subsided, alluded to "the abundant harvest with which this country has been blessed," and to "the recurrence of severe distress in Ireland, owing to the scarcity of the usual food of the people." Having stated her Majesty's trust for the alleviation of Irish distress in the working of the Act passed in the last Session for the relief of the destitute poor, and her satisfaction at the advantage taken by the Irish landlords of the means placed at their disposal by the liberality of Parliament for the improvement of their lands, the royal speech alluded to the "atrocious crimes," the "spirit of insubordination leading to an organized resistance of the law," which had manifested themselves in some Irish counties; approved of the energetic administration of the law by the Lord Lieutenant, but recommended Parliament to "take further precautions against the perpetration of crime in certain counties of Ireland." Her Majesty's recommendation to Parliament of measures for the permanent social and physical improvement of the people of Ireland formed the next topic. The Speech having alluded to the concern her Majesty felt at the breaking out of civil war in Switzerland, to the exertions made in concert with foreign powers for restoring internal peace to that republic, to the confidence of her Majesty in the maintenance of the general peace of Europe, and to the treaty concluded with the republic of Ecuador for the suppression of the slave trade, called the attention of the Commons to the estimates for the next year, which were to be "framed with a careful regard to the exigencies of the public service." The consideration of the Navigation Laws with a view to adopt, without danger to our maritime strength, such changes as might "promote the commercial and

colonial interests of the empire," was next recommended to the deliberation of Parliament. Having called attention to the appointment of the sanitary commission, and recommended the adoption of measures "relating to the public health," the speech expressed her Majesty's sympathy for the distress of the labouring classes in the manufacturing districts of Great Britain and in many parts of Ireland, concluded with the hope that "the commerce and industry of the United Kingdom would soon resume their wonted activity."

The address to the Crown was moved by the Earl of Yarborough and seconded by the Earl of Besborough; a debate, the prominent topics of which were Sir R. Peel's Bank Act and the state of Ireland, followed: the address was then agreed to.

(Commons.) The address was moved by Mr. Heywood, and seconded by Mr. Shafto Adair. Mr. H. Grattan moved an amendment the object of which was to pronounce the inadequacy of the Irish Poor Law to alleviate the distress of the people, and to urge the necessity for devising immediate measures to avert famine and pestilence from a large number of the Irish people. Mr. Roche seconded the amendment, which after a long debate was withdrawn. Mr. Herries then called the attention to the executive letter addressed to the Bank of England on the 25th of October, and the Chancellor of the Exchequer having replied, the address was agreed to.

Nov. 24. (Commons.) The report on the address having been brought up, Mr. Osborne proceeded to address the House on the condition of Ireland. Lord G. Bentinck commenced a debate on the principal topics of her Majesty's Speech; he was followed by Lord J. Russell, Mr. Robinson, Mr. Hume, Mr. Bankes, Mr. Labouchere, Mr. Newdegate, and Mr. Scott. The report was then agreed to.

Nov. 25. (Commons.) Mr. Anstey obtained leave to bring in two Bills, one to amend the law relating to Roman Catholic charities; the other for the repeal of penal enactments against Roman Catholics on account of their religion.

Nov. 26. (Commons.) Lord M. Hill presented at the bar her Majesty's reply to the address. The Chancellor of the Exchequer then moved for leave to bring in a "Bill to extend the Time for the Purchase of Land and Completion of Works by Railway Companies;" and in his speech entered into a statement of the causes of the commercial distress: after a few remarks from Col. Sibthorp, Mr. Ellice, and Mr. Hudson, leave was given.

Nov. 29. (Commons.) The Railway Completion Extension Bill was read a second time. Sir G. Grey moved for leave to bring in a Bill for the prevention of Crime and Outrage in Ireland; a desultory debate followed, at the close of which Mr. Wakley moved an amendment expressive of the injustice of enacting a coercive law without, at the same time, passing measures with a view to the permanent relief of the people of Ireland: a division took place on the amendment, which was rejected by a majority of 233 to 20. The motion was then carried by 224 to 18.

Nov. 30. (Commons.) The Chancellor of the Exchequer, in a speech in which he defended the Government interference with the Bank Act of 1844, and ascribed the recent pressure in the commercial and monetary interests to the continued drain of available capital for the purchase of foreign corn and for the construction of railways, moved the appointment of a Select Committee "to inquire into the causes of the recent commercial distress, and how far it has been affected by the laws for regulating the issue

of bank notes payable on demand." Mr. J. Wilson moved as an amendment, to limit the labour of the Committee to the inquiry "how far the recent commercial distress has been affected by the laws for regulating the issue of notes payable on demand." Mr. T. Baring, Mr. G. Robinson, Sir W. Molesworth, and Mr. Cayley, having addressed the House, the debate was adjourned.

Dec. 2. (Lords.) The Marquess of Lansdowne moved the appointment of a Select Committee on the recent commercial crisis, with similar objects to that moved for in the Commons; the motion, after a discussion, was agreed to.

(Commons.) The debate on the commercial crisis was resumed, continued to a late hour, and again adjourned.

Dec. 3. (Commons.) The Railway Completion Extension Bill passed Committee. The adjourned debate on the commercial crisis and the Bank Act was resumed by the Marquess of Granby, who was followed by Mr. F. Baring, Mr. Herries, Lord J. Russell, Mr. J. Reynolds, and Sir R. Peel, who defended his Bank Acts of 1819 and 1844; Mr. J. Wilson then withdrew his amendment, and the original motion for a Select Committee was agreed to.

Dec. 6. (Commons.) Sir G. Grey moved the order of the day for the second reading of the Irish Crime and Outrage Bill. Mr. J. O'Connell, in the absence of Mr. W. S. O'Brien moved that the other orders of the day be read instead of the motion just made. Mr. Power having seconded the amendment a debate arose, at the close of which the amendment was withdrawn, and the original motion put and carried without a division.

Dec. 7. (Commons.) Mr. F. O'Connor moved for a Select Committee on the Legislative Union between England and Ireland; a lively debate followed, after which the motion was rejected by 255 to 23.

Dec. 8. (Commons.) Mr. Anstey moved the second reading of the Bill for the repeal of the penal statutes against Roman Catholics. Sir R. Inglis opposed the Bill at great length, and moved the second reading that day six months; the amendment was rejected by 168 to 136.

Dec. 9. (Commons.) Sir G. Grey moved the second reading of the Irish Crime and Outrage Bill, which, after a long discussion, went to a division, and was carried by a majority of 296 against 19.

Dec. 10. (Commons.) The House went into Committee on the Irish Crime and Outrage Bill: to clause 1 Mr. J. O'Connell moved an amendment, which was negatived by 203 against 4; the other clauses were then passed without a division. The Irish Public Works Bill went through Committee *pro formâ*.

Dec. 13. (Lords.) The Irish Crime and Outrage Bill was read a first time.

(Commons.) Sir G. Grey moved the third reading of the Irish Crime and Outrage Bill. Mr. J. O'Connell moved that the Bill be read a second time that day six months; the amendment having been seconded by Mr. W. S. O'Brien, a short discussion followed, after which the amendment was negatived by 173 to 14: the Bill was then read a third time and passed. The Irish Public Works Bill passed through Committee. After a discussion in which the protest of the Bishop of New Zealand against Lord Grey's despatch was severely animadverted upon, Mr. Labouchere obtained

leave to bring in a Bill to suspend the operation of part of the New Zealand Government Act of 1846.

Dec. 14. (Lords.) Lord Stanley called attention to the mission of Earl Minto to Italy. The Marquess of Lansdowne in reply stated that the noble Earl had not been accredited to the see of Rome, but that it was desirable to establish a diplomatic intercourse with the Pope.

(Commons.) Mr. Horsman drew the attention of the House to the Act 6—7 Will. IV., c. 77, providing for the augmentation of the incomes of the smaller bishoprics, and moved three resolutions, the last of which affirmed that the provisions of the Act quoted, so far as related to episcopal incomes, had not been carried out according to the intention of Parliament. Mr. Plumptre seconded the resolutions, on the two first of which being put, Sir G. Grey moved the previous question; this was carried. Mr. Hume then suggested to substitute for the affirmation quoted above, a proposal that the provisions of the Act should be reconsidered by Parliament: Mr. Horsman having modified his resolution accordingly, the House divided and the resolution was negatived by 130 to 65.

Dec. 15. (Lords.) The Irish Public Works Bill was read a first time; the Irish Crime and Outrage Bill a second time.

Dec. 16. (Lords.) The Irish Crime and Outrage Bill, after a discussion in which the speakers all approved of the measure, passed through Committee.

(Commons.) Lord J. Russell moved that the House resolve itself into a Committee, to vote a resolution for the removal of the disabilities of the Jews; the debate which followed was adjourned.

Dec. 17. (Lords.) The Irish Crime and Outrage Bill was read a third time and passed. The Irish Public Works Bill went through Committee, and the standing orders having been suspended, it was read a third time and passed.

(Commons.) The adjourned debate on Jewish disabilities was resumed; after another long discussion the House divided, for going into Committee, 253; against it, 183: the House having gone into Committee, the resolution was agreed to, and leave was given to bring in a Bill to remove the Civil Disabilities of the Jews.

Dec. 20. (Commons.) The Jewish Disabilities Bill having been read a first time, Lord J. Russell moved the adjournment of the House to the 3rd of February, which was agreed to. The New Zealand Government Bill was read a second time.

Feb. 3. (Commons.) The Attorney-General obtained leave to bring in a Bill to protect justices of the peace from vexatious actions. Lord G. Bentinck moved for a Select Committee "to inquire into the present condition and prospects of the interests connected with and dependent on sugar and coffee planting in her Majesty's East and West Indian possessions and in the Mauritius; and to consider whether any and what measures can be adopted by Parliament for their relief. In the course of the debate, the Chancellor of the Exchequer, who did not oppose the motion, stated the measures which the Government proposed for the relief of the West Indies and the fixed purpose of the Ministry to allow no interference with the Sugar Act of 1846; the debate was adjourned.

Feb. 4. (Commons.) The adjourned debate on the condition of the East and West Indian Sugar and Coffee Planters was resumed, and, after considerable discussion, the motion for a Committee was agreed to without division.

(Lords.) The Marquess of Lansdowne brought in a Bill
Feb. for the Establishment of Diplomatic Relations with the Court
7. of Rome, which was read a first time. Lord Stanley, on presenting petitions, raised a discussion on the subject of protection to the sugar-producing colonies, and on the distress of the West Indian planters. Earl Grey stated the Government proposals for the relief of the planters; the Bishop of Oxford and Lord Ashburton having addressed the House, the petition was laid on the table.

(Commons.) On the order of the day for the second reading of the Jewish Disabilities Bill, Mr. Stafford (O'Brien) moved that the Bill be read a second time that day six months; Lord Burghley seconded the amendment; a long debate followed, which was adjourned.

(Commons.) On the order of the day for going into Com-
Feb. mittee on the New Zealand Government Bill being read, a
9. long debate arose on the treaty of Waitangi, the Bishop of New Zealand's protest against Lord Grey's despatch, and Lord Grey's censure of the Bishop's protest; the House then went into Committee on the Bill, and the 1st clause was got through.

(Commons.) Lord Morpeth obtained leave to bring in a Bill
Feb. for promoting the Public Health. Mr. Baines obtained leave
10. to bring in a Bill to amend the law relating to the removal of the poor in England and Wales. Mr. Cardwell brought under notice of the House the Report of the Select Committee appointed last Session on the commercial relations with China; in doing so, he entered into the circumstances which caused the falling off in the China trade of late years, and strongly recommended the reduction of the tea duty to 1*s.* a pound; the hon. member concluded by moving for papers. Mr. Ewart seconded the motion. The Chancellor of the Exchequer, while he concurred in the general proposition, could not, by reducing the duty from 2*s.* 2½*d.* to 1*s.* a pound, risk two millions of revenue. Lord G. Bentinck, Mr. Moffatt, Mr. Brown, Mr. Wilson, and others having addressed the House, the motion was agreed to.

(Lords.) On the motion of Lord Monteagle, the Railway
Feb. Companies' Audit Bill was read a second time.
11. (Commons.) The adjourned debate on the second reading of the Jewish Disabilities Bill was resumed: at the close of the discussion the House divided, and the second reading was carried by 277 to 204.

(Commons.) On the motion that the Speaker leave the
Feb. chair, for the purpose of going into Committee on the New
14. Zealand Government Bill, Lord Lincoln proceeded to discuss the principle of the Bill. Mr. Labouchere having briefly replied, the House went into Committee, and the several clauses of the Bill were discussed and agreed to. The House subsequently went into a Committee of Supply.

Feb. (Lords.) The Bishop of Exeter presented a petition from
15. certain clergymen of the Established Church for the repeal of that part of 25 Hen. VIII. which subjects deans and chapters, bishops and archbishops, in certain cases, to the penalties of *præmunire*.

(Commons.) Sir W. Somerville got leave to bring in a Bill to amend the law of landlord and tenant in Ireland. Leave was also given to Mr. Pusey to bring in his Bill for the improvement of agricultural tenant-right in England and Wales; and to Mr. W. S. O'Brien to bring in a Bill for the improvement of Irish landed property.

(Commons.) On the motion for going into Committee on
Feb. the Roman Catholic Relief Bill, Mr. Law moved the Com-
16. mittee that day six months. The amendment, after a long

discussion, was rejected by 186 to 154. The House then went into Committee *pro formâ*; on resuming, the Irish Landlord and Tenant Bill was read a first time.

Feb. 17. (Lords.) The Marquess of Lansdowne moved the second reading of the Diplomatic Relations with the Court of Rome Bill, of which he explained the objects. The Duke af Newcastle moved the second reading that day six months; the Bishops of Winchester and Exeter, the Duke of Richmond, and Lord Eldon supported the amendment: the Bishop of St. David's, Lord Stanley, Earls Grey and St. Germains supported the second reading: the Marquess of Lansdowne having replied, the amendment was withdrawn, and the second reading agreed to without division.

(Commons.) Mr. Herries moved for a Committee of the whole House to consider the operation of the Bank Charter Act; a discussion followed, after which the motion was negatived by 163 to 122. A Select Committee on the growth of Cotton in India was nominated.

Feb. 18. (Lords.) In Committee on the Diplomatic Relations with the Court of Rome Bill, some alterations were made in the Preamble of the Bill; the expression "Sovereign Pontiff" was amended to "Sovereign of the Roman States." The Earl of Eglintoun made a motion against the reception of any ecclesiastic as ambassador from Rome; this amendment, though opposed by Government, was carried by 67 to 64. The amended Bill was ordered to be recommitted for the purpose of printing the amendments.

(Commons.) In a Committee of Ways and Means, a vote of 8,000,000*l.* having been agreed to, Lord J. Russell made the financial statement of the year, and concluded by moving two resolutions embodying a plan for augmenting the income-tax for the next two years from 3 to 5 per cent.; a long desultory debate followed, in which the Government proposal was received with universal reprobation. The New Zealand Government Bill was read a third time and passed.

Feb. 21. (Commons.) The Chancellor of the Exchequer, on moving that the House resolve into a Committee of Supply, stated the cause of the increased expenditure, and intimated that he would move for a *Secret* and Select Committee to which the whole question of the army, navy, and ordnance estimates would be referred. In the debate that followed, the proposal for a Secret Committee met with much opposition, and the Ministers were obliged to consent to go into Committee for the purpose of voting certain sums *on account*, for the expenditure of the army and navy. The House having resumed, the Public Health Bill was read a second time; the report on the Committee of Ways and Means was brought up; the Passengers' Bill, of which Mr. Labouchere explained the object, was read a second time and referred to a Select Committee: the House then, on the motion of Mr. Gibson, went into Committee and voted a resolution for the improvement of the machinery of the Joint Stock Companies' Winding-up Act, 7—8 Vict. c. 111, and 8—9 Vict. c. 98; a Bill for carrying out the resolution was brought in.

Feb. 22. (Commons.) The Chancellor of the Exchequer stated a further change in the intentions of the Government respecting the estimates; he now moved for two committees—one a Select Commiteee to inquire into the miscellaneous expenditure, and the other a Select (not as at first proposed, a *Secret*) Committee on the army, navy, and ordnance expenditure; after a long discussion the motion was agreed to. Mr. Hutt then moved for a Select Com-

mittee "for mitigating the horrors of the slave trade and providing for its final extinction," which was agreed to.

Feb. 23. (Commons.) Mr. Anstey, in a speech of between four and five hours delivery, developed his accusations against Lord Palmerston's policy since 1830, and concluded by moving for papers. Mr. Urquhart having seconded the motion, Mr. Sheil defended Lord Palmerston, who rose to reply; but before he had proceeded far, the debate was adjourned by the clock striking six.

Feb. 24. (Lords.) The Irish Encumbered Estates Bill was read a second time.

(Commons.) Leave was given to bring in the following Bills:—Mr. Ewart, a Bill to establish a power of appeal in criminal cases; Mr. Colville, a Bill to enable occupiers of land to kill hares on their land without a game license; Mr. P. Scrope, a Bill to exempt small holdings from taxation.

Feb. 25. (Lords.) On the motion of the Earl of Hardwicke, a Select Committee on the Navigation Laws was appointed.

(Commons.) The House went into Committee of Supply, and a vote of 1,100,000*l.* for the expenses of the Kaffir war, proposed by the Chancellor of the Exchequer, after some debate, was agreed to, as was also a vote for 245,410*l.* 19*s.* 7*d.* of navy excess for 1846-7.

Feb. 28. (Lords.) The Diplomatic Relations with the Court of Rome Bill was read a third time.

(Commons.) The Chancellor of the Exchequer, in moving the order of the day for the House to go into a Committee of Ways and Means, restated the financial condition of the country, announced the withdrawal of the proposed 5 per cent. income tax, and concluded by hoping that the House would not refuse the Government the present income tax for three years longer; a long desultory debate followed; the order of the day was then read, but the Committee of Ways and Means was postponed.

Feb. 29. (Lords.) The New Zealand Government Bill was read a second time.

(Commons.) The Poor Removal Bill, on the motion of Mr. Baines, was read a second time.

March 1. Lord Palmerston then continued the defence of his foreign policy against the charges of Mr. Anstey, until the clock struck six.

March 2. (Lords.) The New Zealand Government Bill went through Committee.

(Commons.) Mr. B. Cochrane moved for papers relating to Greece, and in doing so reviewed the proceedings of the government of that country; the motion was agreed to.

March 3. (Commons.) On the motion for going into Committee of Ways and Means, Mr. Horsman moved as an amendment that "if the Income-tax is continued, it is expedient to amend the Act, and not to impose the same charge on incomes arising from professional and precarious sources as on those derived from realized property." A long debate followed, after which the amendment was negatived by 316 to 141; the House then went into Committee *pro formâ*: on resuming, the Diplomatic Relations with Rome Bill was read a first time.

March 6. (Lords.) The New Zealand Government Bill was read a third time and passed.

(Commons.) The House having gone into Committee of Ways and Means, it was moved "that the Income-tax be

continued for a period to be limited:" Mr. Hume asked how Government intended to make up the deficiency occasioned by abandoning the proposal to increase the tax to 5 per cent.; to which having received an unsatisfactory reply from the Chancellor of the Exchequer, he moved that, instead of the words "for a period to be limited," the words "for one year" be inserted in the resolution; a long debate followed, which was adjourned. The Passengers' Bill passed Committee.

March 7. (Commons.) Mr. S. Crawford obtained leave to bring in a Bill "to secure the right of outgoing tenants in Ireland," which was read a first time. Sir W. Somerville brought in a Bill to amend the Law for Imprisonment for Debt in Ireland.

March 8. In Committee on the Roman Catholic Relief Bill several amendments were proposed and negatived, and a few clauses having been agreed to, Mr. Law moved that the Chairman report progress, which went to a division and was negatived by 175 to 124; the Chairman, however, soon after reported progress. The Game without License Bill was read a second time.

March 9. (Commons.) Mr. S. Crawford moved for leave to bring in a Bill to repeal the "quarter-acre clause" (§ 10) of the Irish Poor Act. Sir G. Grey opposed the motion, which went to a division and was rejected by 114 to 21: the Passengers' Bill was read a third time; the Small Tenements' Exemption Bill a second time.

March 10. (Commons.) In Committee of Ways and Means, the adjourned debate on Mr. Hume's motion respecting the Income tax was resumed, and, after another discussion, again adjourned.

March 13. The adjourned debate on Mr. Hume's motion was resumed; Mr. Macgregor, Mr. Cobden, Mr. Muntz, Mr. Wakley, and others having spoken, Lord J. Russell, in an elaborate reply, threatened to resign if the amendment were carried: the Committee divided, for the Government proposal 363, and 138 for Mr. Hume's amendment; the resolution to continue the Income tax for three years was then agreed to.

March 14. (Lords.) On the motion of Lord Monteagle, the Railway Companies Audit Bill passed through Committee; the Passengers' Bill was read a second time.

(Commons.) Mr. Ewart moved for leave to bring in a Bill for the Abolition of Death Punishment. Sir G. Grey opposed it. The motion was negatived by 122 to 66. Mr. Hume moved an address to the Crown for the reduction of public salaries; the Chancellor of the Exchequer opposed the motion, but admitted that the spirit of the resolution ought to be acted on. Mr. Hume withdrew his motion.

March 16. (Lords.) Lord Campbell brought in a Bill "to establish a Court of Appeal in criminal cases," which was read a first time; the Passengers' Bill went through Committee.

(Commons.) Mr. F. O'Connor obtained leave to bring in a Bill to amend the 9—10 Vict. cap. 27, relating to Friendly Societies, his purpose being to obtain the protection of the law for the National Land Company. On the motion of Mr. Anstey, the order of the day for the adjourned debate on Lord Palmerston's administration was discharged.

March 17. (Lords.) The Passengers' Bill was read a third time and passed.

(Commons.) In a Committee of Ways and Means, Sir B. Hall moved that the Income tax be extended to Ireland; the motion went to a division and was negatived by 218 to 138.

March 20. (Lords.) On the motion of the Marquess of Lansdowne an address to her Majesty on the birth of another princess was agreed to.

(Commons.) A similar address was moved by Lord John Russell and agreed to. The report on the resolution of ways and means was received, and a Bill founded on it ordered to be brought in. In Committee of Supply on the navy estimates, Mr. Ward moved a vote of 1,425,308*l*. Mr. Hume moved an amendment for a reduction of the number of men in the navy, which was negatived by 347 to 38.

March 21. (Lords.) The Irish Encumbered Estates Bill passed through Committee.

22. (Commons.) Mr. Sharman Crawford moved the second reading of the Outgoing Tenant's Bill, the object of which was to legalize the Ulster Tenant-right. Mr. Trelawney moved an amendment; a long debate followed, which was adjourned.

March 24. (Lords.) The Railway Companies' Audit Bill was read a third time and passed; the Criminal Law Administration Bill, on the motion of Lord Campbell, was read a second time and ordered to be referred to a Select Committee.

(Commons.) Mr. Baillie moved, as an amendment on the order of the day, an address to the Crown for the withdrawal of the squadron from the African coast, which he brought evidence forward to show only aggravated the evils of the slave trade; after a long debate, the amendment was negatived by 216 to 80. The House went into Committee of Supply on the ordnance estimates; the Income tax Bill was read a second time.

March 27. (Commons.) On the motion for going into Committee on the Income tax Bill, Mr. Hume moved to refer the Bill to a Select Committee, to remedy its inequalities. Mr. Robinson having seconded the amendment, a long debate followed, after which the House divided and negatived the amendment by 284 to 73: the House having gone into Committee, the Bill passed through.

March 28. (Commons.) Mr. S. Wortley moved the second reading of the Election Recognizances Bill, which was carried against Government by 112 to 80.

29. (Commons.) On the motion of Mr. Goulburn a Committee was appointed to inquire whether the oaths required to be taken by Members of the House had been duly taken by Mr. Hawes, who had taken the oaths as Member for Kinsale on the 15th of March, although his return had not been certified by the Clerk of the Crown till the 18th. The Election Recognizances Bill went through Committee.

March 31. (Commons.) In Committee of Supply, the army estimates, after amendments for retrenchment moved by Mr. Hume and Sir Sir W. Clay had been negatived, were agreed to. On resuming, the Income tax Bill was read a third time and passed.

April 3. (Lords.) The insurrection in North Italy and the entrance of the Sardinian troops into Lombardy were brought under the notice of their Lordships by the Earl of Aberdeen.

(Commons.) Lord J. Russell moved the order of the day for going into Committee on the Jewish Emancipation Bill. Mr. Goring moved that no Jew "ought to possess the franchise, much less to sit in that House;" which proposal was negatived without division. The House having gone into Committee, the several clauses of the Bill were agreed to.

April 4. (Lords.) Lord Beaumont brought in a Bill to legalize the Odd Fellows' Society, which was read a first time, as was also the Election Recognizances Bill.

(Commons.) Mr. Horsman moved a resolution to do away with the distinction between Episcopal and Common Funds, and to permit the fusion of these two funds, and their application to the relief of the present parochial destitution. The motion gave rise to an interesting debate, in which the principle affirmed was assented to. The resolution was withdrawn.

(Commons.) On the motion of Mr. S. Crawford, the Irish
April Poorhouses Bill was read a second time. The adjourned debate on
5. the Irish Outgoing Tenant's Bill was resumed by Mr. Napier, who opposed the measure, as did also Sir J. Walsh, and Sir G. Grey. On a division the second reading was negatived by 145 to 122.

April (Lords.) The Marquess of Lansdowne moved the second read-
6. ing of the Income Tax Bill, which was agreed to.

(Commons.) Mr. F. O'Connor moved for an address to the Crown to pardon Frost, Williams, Jones, and all other political offenders. Sir G. Grey opposed the motion, which, after a discussion, was rejected by 91 to 23. Mr. G. Thompson moved for a Select Committee on the case of the late Rajah of Sattara; the debate on this subject was adjourned.

(Lords.) The Income Tax Bill passed through Committee.
April On the motion of Lord Denman, a Bill to give the coroner
7. power to take Bail in certain cases of Manslaughter, was read a second time; as was also a Bill to prevent Unnecessary Actions at Law.

(Commons.) Sir G. Grey moved for leave to bring in a Bill for the better Security of the Crown and Government. In the debate that followed, Lord J. Russell justified it, and contended that there was not a single syllable in it which could be justly said to impair the rights of free discussion. On a division the first reading was carried by 283 to 24. The Irish Landlord and Tenant Bill was read a second time.

(Commons.) Mr. F. O'Connor presented the Chartist petition,
April signed, he said, by 5,706,000 persons; it was read at length by
10. the clerk at the table. On the order of the day for the second reading of the Crown and Government Security Bill, Mr. W. S. O'Brien made a speech breathing defiance of the government, which was replied to by Sir G. Grey. Mr. F. O'Connor then moved, and Mr. G. Thompson seconded, as an amendment, that the Bill be read a second time that day six months. After a long debate the second reading was carried by 452 to 35.

(Lords.) The Marquess of Lansdowne brought in a Bill to
April compel the departure of Suspected Aliens from this country,
11. which was read a first time. Lord Brougham, in moving for papers relating to the war between Sardinia and Austria, reviewed the recent revolutionary events in Europe, and pronounced a heavy judgment against the Pope and the King of Sardinia.

(Commons.) In an extraordinary 12 o'clock sitting, on the motion that the Crown and Government Bill be committed, a prolonged discussion took place, the subjects of debate being the retaining of the third or "gagging clause" against "open and advised speaking," and the proceedings consequent on the Chartist meeting of the preceding day. At length the House divided, for going into Committee 321, against it 19. In Committee, on arriving at the third clause, several amendments and omissions having been proposed, the chairman reported progress. In the 5 o'clock sitting Mr. J. O'Connell moved for leave to bring in a Bill to Repeal the Union between Great Britain and Ireland. The debate on this motion was adjourned.

(Commons.) On the motion for going into Committee on the
April Crown and Government Security Bill, another long debate took
12. place, during which Lord J. Russell announced that the clause objected to (3) should have only a temporary operation. The House then went into Committee, and Mr. Martin moved the omission of the words against "open and advised speaking," on which another discussion ensued, and was not ended at 6 o'clock, when the chair was vacated.

(Lords.) On the motion of the Marquess of Lansdowne, the Alien

April 13. Removal Bill was read a second time. Lord Campbell brought in two bills for amending the Law of Marriage in Scotland, and or the Registration of Births, Deaths, and Marriages in that country.

(Commons.) Mr. Thornley reported from the Committee on the Chartist petition, that the number of signatures to that document was only 1,975,496 instead of 5,706,000, as had been stated by Mr. F. O'Connor, and that many of the names were fictitious. A warm altercation followed between Mr. Cripps and Mr. O'Connor on this subject.

April 14. (Lords.) On the motion of Lord Redesdale, a Bill for abating the Smoke Nuisance from furnace and factory chimneys, was read a first time. Lord Stanley, in an able speech, in which he commented on the mode of transacting the public business of the House, moved for leave to bring in a Bill to grant either House the power, on receipt of a bill from the other, and previous to the reference of that bill to a committee, to adjourn the consideration of the measure to a day named in the next session of Parliament, then to be proceeded with as if it had been sent from the other House as a measure of the existing session. After a short debate the Bill was read a first time.

(Commons.) In the 12 o'clock sitting, on the motion for again going into committee on the Crown and Government Security Bill, a discussion of three hours' duration ensued; when a division took place, the motion was carried by 287 to 33, and the House went into Committee. On the question that the words "open and advised speaking" stand part of the Bill, the Committee, after a long discussion, divided, and the words were retained by 188 to 79. On the motion that clause 3 stand part of the Bill, another division took place, and the clause was affirmed by 242 to 50. On the 4th clause also a division took place, and it was carried by 221 to 33. The remaining clauses and the preamble were then agreed to.

April 17. (Lords.) The Alien Removal Bill passed through Committee; Lord Monteagle moved the second reading of the Election Recognizances Bill; Lord Brougham moved the second reading that day six months, and was supported by Lords Campbell, Denman, and the Lord Chancellor; the second reading was affirmed by 19 to 9.

(Commons.) On the motion that the Report of the Crown and Government Security Bill be received, several amendments were proposed, with a view to get rid of the obnoxious words "open and advised speaking," but they were all negatived. The Attorney General moved a proviso, limiting the time of swearing informations to six days after the offence, which was carried after a debate by 142 to 30. After some further discussion the Report was received. Resolutions for the Reduction of the Duty on Foreign Copper to 1*s.* a ton, were agreed to in Committee.

April 18. (Lords.) The Crown and Government Security Bill was read a first time. The Election Recognizances Bill passed through Committee. The Aliens Bill was read a third time and passed.

(Commons.) On the motion for the third reading of the Crown and Government Security Bill, Mr. Hume moved that it be read that day six months. A debate ensued, after which, the third reading was carried by 295 to 40. Sir J. Hanmer moved for leave to bring in a Bill to appoint commissioners to inquire into the existence of corrupt practices at elections in certain boroughs; leave was given, and the Bill was read a first time.

April 19. (Lords.) The Crown and Government Security Bill was read a second time. The Election Recognizances Bill was read a third time and passed.

(Commons.) Mr. D'Israeli, in a speech enriched with historical details, brought under notice of the House the state of the relations of England with Denmark. Lord Palmerston replied, and the House having gone into Committee on Mr. Colville's Game Bill, Mr. G. Berkeley carried by 49 to

44, a clause preventing persons not having game certificates to kill hares with fire-arms, on the ground that "it was unsafe to encourage the use of fire-arms by the lower orders."

April 20. (Lords.) The Crown and Government Security Bill passed through Committee and was read a third time, the standing orders being suspended.

April 22. (Lords.) The Royal Assent was given, by commission, to the Crown and Government Security Bill and several other Bills. The House then adjourned till May 4.

(Commons.) Sir G. Grey brought in a Bill for the protection and relief of tenants evicted from their dwellings in Ireland. The House adjourned till May 1.

May 1. (Commons.) The early part of the sitting was spent in Committee of Supply. On the House resuming, Sir G. Grey moved the second reading of the Aliens Removal Bill, which motion went to a division, and was carried by 141 to 22. The Lords' amendments to the Election Recognizances Bill were agreed to. Sir W. Somerville obtained leave to bring in two Bills—to Regulate the Elective Franchise, and Registration of Parliamentary Electors in Ireland; and to increase the number of Polling Places at Irish Elections.

May 3. (Commons.) The Poor Removal Bill and the Joint Stock Companies Bill passed through Committee.

May 4. (Commons.) After some explanation, in answer to Mr. Urquhart, from Lords J. Russell and Palmerston respecting the despatch to the British Ambassador at Madrid offering advice to the Spanish Minister, Lord J. Russell moved the third reading of the Jewish Disabilities Bill; Mr. Thesiger moved the third reading that day six months, and was supported by Mr. Campbell, Mr. Scott, Mr. Raphael, Mr. Napier, Mr. R. Palmer, Lord Mahon, Sir R. Inglis, and Mr. Newdegate; Mr. Westhead, Mr. Trelawney, Mr. G. C. Lewis, Mr. Brotherton, Mr. Gaskell, and Mr. Fortescue, supported the Bill. Lord J. Russell then replied, after which the House divided, for the third reading 234, against it 173; the Bill was accordingly read a third time. The Irish Evicted Tenants and the Irish Poor-Houses Bills passed through Committee.

May 5. (Lords.) The Jews Disabilities Bill was read a first time. A debate relative to the recent interference in Spain and Italy, was then raised by Lord Stanley, who animadverted in severe terms, on Lord Palmerston's despatch to Mr. Bulwer, and on Mr. Bulwer's letter to the Duke of Sotomayor; the noble lord concluded by moving for copies of the correspondence on this subject: after a few remarks from the Marquess of Lansdowne and Lord Brougham, the motion was withdrawn.

(Commons.) The Aliens Removal Bill passed through Committtee. On the order of the day for the committal of the Public Health Bill, Mr. Urquhart moved that the Bill be committed that day six months. The debate which followed was adjourned.

May 8. (Lords.) The Irish Encumbered Estates Bill was committed. The subject of Lord Palmerston's despatch to Mr. Bulwer, and the occurrences consequent on the letterof the latter to the Duke of Sotomayor, were again brought before the House by Lord Stanley.

(Commons.) The adjourned debate on the Public Health Bill having been resumed, after considerable discussion Mr. Urquhart withdrew his amendment, and the House went into Committee. In clause 1 Mr. Bankes moved the omission of all words that went to exclude London and Westminster from the operation of the Bill, which after some discussion was negatived by 240 to 71. Clause 1 was agreed to.

May 9. (Lords.) The Odd Fellows' Societies Legalization Bill was read a second time on the motion of Lord Beaumont.

(Commons.) The Joint Stock Companies Bill passed through
May Committee. The Attorney-General brought in a Bill to exempt
10. buildings occupied by Scientific Societies from rates.

May (Lords.) The Irish Encumbered Estates Bill was read a third
11. time.

(Commons.) Sir G. Grey moved the third reading of the Aliens Removal Bill; Mr. Mowatt moved and Mr. Hume seconded, as an amendment, that the Bill be read a third time that day six months. A long debate followed, after which the third reading was carried by 146 to 29. The House then went into Committee on the Public Health Bill, but no progress was made with it. Sir J. Hanmer withdrew his Borough Elections Bill, and introduced another on the same subject, which was read a first time.

(Lords.) Lord Brougham brought under the notice of their
May lordships the state of the law legislative and judicial, and con-
12. cluded by laying on the table a Bill, "to consolidate into one statute the whole law of crimes and punishments," which was read a first time.

(Commons.) On the motion of Mr. F. O'Connor the Friendly Societies Bill was read a first time. Mr. P. Wood moved for a Select Committee on the interference of the Marquess of Exeter at the elections of members for the borough of Stamford. The motion after a long discussion went to a division, and was carried by 178 to 177.

May (Lords.) On the motion of Lord Stanley, the Parliamentary
15. Proceedings Adjournment Bill was read a second time.

(Commons.) The House went into Committee on the Navigation Laws, and Mr. Labouchere stated in outline the alterations proposed by the Government. Mr. Robinson, Lord G. Bentinck, Mr. Henley, Mr. Hudson, and Viscount Ingestre, opposed the proposal; Mr. Hume, Mr. Ricardo, Mr. Mitchell, supported it; the debate was adjourned.

May (Lords.) The Commons' amendments to the Aliens' Removal
16. Bill were agreed to. The Irish Poor-Houses Bill was read a second time.

(Commons.) In answer to Lord G. Bentinck, Mr. Hawes admitted that a memorial lately received from the Mauritius contradicted his late assertion of the improvement of that colony. Mr. Horsman moved an address to the Crown for inquiry into the state of the cathedrals and collegiate churches, with a view to render them more conducive to the spiritual instruction of the people. After a debate Mr. Horsman withdrew his motion, satisfied with the statement of Lord J. Russell, who assented to the principle contained in it.

(Commons.) Sir De Lacy Evans moved the second reading of
May his Parliamentary Electors Bill, the object of which was to extend
17. the time of payment of rates and taxes from April 5 to October 11. On a division the second reading was carried by 60 to 25. Sir T. F. Baring moved the second reading of the Railway Accounts Audit Bill, which was negatived by 100 to 38. Mr. Bouverie moved the second reading of his Scotch Places of Worship Sites Bill; after some discussion the motion was affirmed by 80 to 25.

May (Lords.) On the motion of Lord Redesdale, the Smoke Pro-
18. hibition Bill was read a second time.

(Commons.) On the order of the day for again going into Committee on the Public Health Bill, Col. Sibthorp moved the Committee on the Bill for that day six months, which was negatived by 219 to 1. The House then went into committee; on clause 3, for the establishment of a board of health, being put, Mr. Urquhart moved its postponement, which was negatived by 145 to 45. The discussion of the clause was then proceeded with till nine o'clock, when the House resumed. Sir J. Hanmer moved the

second reading of the Borough Elections (No. 2) Bill; Colonel Sibthorp moved an amendment which caused some discussion, at the close of which Mr. J. Stuart, having essayed in vain to address the House, moved its adjournment; this was negatived by 215 to 69. The House then divided on the second reading, which was carried by 198 to 85. The Irish Encumbered Estates Bill was read a second time.

May 19. (Commons.) In Committee on the Public Health Bill, clause 3 and the succeeding clauses up to 56 were agreed to.

May 22. (Commons.) In Committee on the Public Health Bill the clauses from 57 to 62 were agreed to; on clause 63, relating to laying out new streets, a division took place, and the clause was affirmed by 85 to 19. The remaining clauses up to 105 were agreed to.

May 23. (Lords.) The Parliamentary Proceedings Adjournment Bill passed through Committee.

(Commons.) Lord Palmerston, in reply to Mr. Bankes, stated that the British Minister at the Spanish court, Mr. Bulwer, had received his passports from the Spanish government, with orders to leave Madrid on the 17th. Mr. Hume postponed his motion for Parliamentary Reform till June 20. A speech from Mr. F. O'Connor, impugning the motives for adjournment, called forth a sharp rebuke from Mr. Cobden, who was followed by Lord John Russell, with the declaration of his belief that the middle and working classes wished neither for the People's Charter nor for the plan of reform proposed by Mr. Hume. On the motion of Mr. F. O'Connor, a Select Committee was appointed on the National Land Company.

May 25. (Lords.) The Marquess of Lansdowne moved the second reading of the Jews Disabilities Bill; the Earl of Ellenborough moved that the Bill be read a second time that day six months. A long debate followed, after which their lordships divided, and the second reading was negatived by 163 to 128.

(Commons.) In reply to Mr. Goulburn, Mr. Hawes stated that the late packet from the West Indies had brought the Government no information from the island of Jamaica. In Committee the remaining clauses of the Public Health Bill passed through with various amendments. The Joint Stock Companies Bill was read a third time. The Scotch Law of Entail Bill passed through Committee.

May 26. (Lords.) The Bishop of Oxford brought in a Bill for the Prevention of Seduction, which was read a first time.

(Commons.) In Committee of Supply on a question of further grants "on account" for the naval service, Mr. Cobden supported his previous statements respecting the inactivity of British men-of-war on foreign stations. The Irish Qualification and Registration of Electors Bill was read a second time. On the motion for going into Committee on the Borough Elections (No. 2) Bill, Col. Sibthorp moved that the Bill be committed that day six months, which motion was negatived by 166 to 78. The Bill then passed through Committee. The Tobago Relief Bill was read a second time. Mr. Hindley brought in a bill to amend the laws relating to Sunday trading.

May 29. (Commons.) On the question that the Speaker leave the chair preparatory to going into Committee on the Navigation Laws, Mr. Herries moved as an amendment, "That it is essential to the national interests to maintain the fundamental principle of the existing navigation laws." The debate on this subject was adjourned. The Tobago Relief, &c. Bill passed through Committee.

May 30. (Lords.) The Earl of Lucan moved for a Select Committee on the Irish Poor Law Acts, which, after a short debate, was carried against Government by 33 to 27. The Irish Evicted Tenants Bill was read a second time.

(Commons.) Mr. Bouverie moved that the continued existence of the ecclesiastical courts was injurious to the subject and a scandal to the judicial system. Sir G. Grey, having stated that a Bill on the subject would be brought in next session, moved the previous question, which was carried without a division. Dr. Bowring submitted resolutions on the subject of the public accounts, the object of which was "to subject the whole amount of the national income to the efficient control of the House of Commons." The Chancellor of the Exchequer having moved the previous question, the House divided, and the amendment was negatived by 55 to 54. The House then divided on the first resolution, which was carried by 56 to 51.

May 31. (Commons.) On the motion for going into Committee on Mr. Anstey's Roman Catholic Relief Bill, Mr. Law moved an instruction to the Committee to divide the Bill into two parts, which was affirmed by 142 to 29. The Bill was accordingly divided into two parts. The House then went into Committee on the Bill, with which however no progress was made.

June 1. (Commons.) The adjourned debate on the Navigation Laws was after another discussion again adjourned. The Metropolis Police Bill, the object of which was to re-assess the parishes in London for the purpose of a police-rate, was read a second time. Sir G. Grey brought in a Bill to amend the laws relating to highways in England and Wales. The Tobago Relief, &c. Bill was read a third time.

June 2. (Lords.) The Smoke Prohibition Bill, the Parliamentary Proceedings Adjournment Bill, and the Irish Poor-houses Bill were severally read a third time.

(Commons.) The adjourned debate on the Navigation Laws was resumed by Mr. Gladstone, who, in a highly argumentative and luminous speech, gave a general support to the Government proposal; several other members having addressed the House, Sir J. Walsh moved the adjournment of the debate, which went to a division, and was carried by 236 to 73.

June 5. (Lords.) The Great Yarmouth Freemen Disfranchisement Bill, the Prevention of Seduction Bill, and the Tobago Relief, &c. Bill were severally read a second time. The Irish Evicted Tenants Bill passed through Committee *pro formâ*.

(Commons.) Mr. Bankes brought forward a motion condemnatory of the course pursued by the British Ministry with reference to the affairs of Spain, which after a discussion was withdrawn.

June 6. (Lords.) Lord Brougham brought in a further Bill for the Amendment of the Criminal Law, which was read a first time. The Tobago Relief, &c. Bill passed through Committee.

(Commons.) On the motion of Mr. French, a Bill to secure to Ireland a complete system of railways was read a first time. The report on the Public Health Bill was received *pro formâ*, the consideration of the amendments being postponed.

June 7. (Commons.) On the further consideration of the report of the Game Certificates for Killing Hares Bill, Mr. Elliott moved an amendment, requiring that landowners on giving leave to others to kill game on their lands should do so in writing, which was agreed to by 77 to 22. Sir W. Joliffe moved an amendment limiting the shooting clause to the day time, which was carried by 78 to 18. On the question that the Bill be engrossed, Mr. H. Drummond moved that the question be adjourned to that day six months, which proposal was negatived by 90 to 11. On the question for going into Committee on the Scotch Places of Worship Sites Bill, Mr. B. Cochrane moved the Committee that day six months; a lively discussion followed, after which the House divided—for going into Committee 84, against it 59. The Bill was then committed *pro formâ*

June 8. (Lords.) Earl Fortescue brought in a Bill to amend the laws relating to Irish Ecclesiastical Unions, which was read a first time. On the motion of the Earl of Harrowby, the Sale of Beer Regulation Bill was read a second time. The Great Yarmouth Freemen Disfranchisement Bill passed through Committee; the Tobago Relief, &c. Bill was read a third time.

(Commons.) Sir T. F. Baring brought up the Report of the Currency Committee, which was ordered to be printed. The adjourned debate on the Navigation Laws was resumed, and after further discussion, again adjourned. The Highways Bill was read a second time. The Irish Imprisonment for Debt Bill was committed; the Game Certificates for Killing of Hares Bill was read a third time.

June 9. (Lords.) On the motion of Lord Campbell, the Registration of Births, &c. and Marriage (Scotland) Bills were read a second time.

(Commons.) In the adjourned debate on the Navigation Laws, Lord G. Bentick opposed the alterations proposed by the Government, and was followed on the same side by Admiral Bowes and Mr. D'Israeli, who made a furious onslaught on the statistics of Mr. Wilson; the Government proposal was defended by Mr. Hume, Mr. Cobden, and Mr. Wilson, who replied to Mr. D'Israeli. Sir R. Peel then defended his free-trade measures, which had been freely discussed by the Protectionist speakers, and gave his support to the Government. Lord J. Russell having replied, the House divided for Mr. Herries's amendment 177, against it 294. The House then went into Committee, the resolution was agreed to and reported forthwith; and a Bill founded thereon was brought in.

June 15. (Commons.) The Report on the Public Health Bill was received. In Committee on the Borough Elections Bill a discussion and division took place on the first clause, which was retained by 108 to 39.

June 16. (Commons.) Lord J. Russell stated his views respecting the sugar question and the West Indian distress. The proposal of Government was to guarantee a loan of 500,000*l.* to provide for the importation of emigrants, in addition to the sum already allowed by the House for that purpose; to regulate the scale of duties on foreign and colonial sugar, so that the duties on all classes of sugar in 1854 shall be equalized at 10*s.*; to reduce the differential duty on rum to 4*d.* a gallon; and to withdraw the permission to use sugar in breweries. The noble lord concluded by moving that the House go into Committee on the Sugar Act of 1846 on the 19th inst.; after a protracted debate, during which some altercation took place between Lord G. Bentinck, Mr. Hawes, and Mr. D'Israeli, about a suppressed despatch from the Governor of Jamaica, the motion was agreed to. The motion for going into Committee on the Navigation Laws resolutions went to a division, and was carried by 119 to 32; the House then went into Committee, but no progress was made with the resolutions.

June 19. (Lords.) The Irish Ecclesiastical Unions Bill was read a second time.

(Commons.) On the question that the order of the day for going into Committee on the Sugar Act of 1846 be read, Mr. E. Ellice discussed the state of the West Indies; and Lord J. Russell having replied, Sir J. Pakington moved an amendment to the Government resolution; Sir E. N. Buxton having seconded the amendment, a long debate followed, which was adjourned. The Public Health Bill was read a third time and passed.

June 20. (Commons.) Mr. Hume, after a speech of above two hours' duration, moved a resolution, "that the House of Commons, as at present constituted, does not fairly represent the population, the

property, or the industry of the country;" "and it is therefore expedient, 1, that the national representation shall be so extended as to include all householders; 2, that votes shall be taken by ballot; 3, that the duration of Parliament shall not exceed three years; and, 4, that the apportionment of members to population shall be made more equal." Dr. Bowring seconded the motion, which was opposed by Mr. H. Drummond, Lord J. Russell, and Mr. D'Israeli, who however advocated triennial Parliaments. Mr. W. J. Fox supported the resolution, the debate on which was adjourned.

June 21. (Commons.) In Committee on the Parliamentary Electors Bill, a division took place on clause 1, the only clause in the Bill, which was retained by 59 to 47.

July 22. (Lords.) The Game Certificate for Killing Hares Bill, the Certificates for Killing Hares (Scotland) Bill, and the Criminal Law Consolidation (No. 2) Bill, were severally read a second time. Lord Stanley brought before their lordships the dismissal of Sir H. Bulwer from Madrid, and the mission of the Count Mirasol to this country. The Lord Chancellor moved the second reading of the Copyhold Enfranchisement Extension Bill; after a discussion the motion went to a division, and was carried by 31 to 16. The Irish Evicted Tenants Bill was reported with amendments.

(Commons.) The subject of the differential duties on rum, in connexion with a deputation of Irish Members to the Chancellor of the Exchequer, led to an animated discussion, at the instance of Sir L. O'Brien, who moved the adjournment of the House, but subsequently withdrew his motion. The adjourned debate on the government proposal respecting the West Indies was, after another discussion, further adjourned. Mr. C. Buller got leave to bring in several Bills for the amendment of the Poor Law, Sir W. Somerville, to bring in a Bill to amend the Acts relating to the Irish Police.

June 23. (Lords.) The Administration of Justice, the Protection of Justices from Vexatious Actions, and the Joint Stock Companies Bills, were read a second time.

(Commons.) The adjourned debate on the Sugar Duties was resumed by Mr. P. Miles; the other speakers were Mr. B. Hawes and Lord G. Bentinck, the latter of whom commented in strong terms on the suppression of the Jamaica Despatch by the Colonial Office; this called up Lord J. Russell, who warmly defended Lord Grey and taunted Lord G. Bentinck with his former pursuits on the turf, and his connexion with the Jockey Club. After a stinging reply and a reiteration of the charge against the Colonial Office from Mr. D'Israeli, the debate was adjourned.

June 26. (Lords.) The Irish Evicted Tenants' Bill was read a third time and passed. The Game Certificates for Killing Hares, and the Certificates for Killing Hares (Scotland) Bills, passed through Committee.

(Commons.) After a warm and animated discussion respecting the Unproduced Despatch, the adjourned debate on the Sugar Duties was resumed, and, several speakers having addressed the chair, further adjourned. The Irish Police Bill was read a second time; the Prisons Bill was committed.

June 27. (Lords.) Earl Grey in moving for certain papers relating to the West Indies, vindicated himself at great length from the charge brought against him by Lord G. Bentinck in the House of Commons. Lord Stanley defended Lord G. Bentinck, and reiterated the charge against the Colonial Office. After some further discussion the papers were ordered.

June 28. (Commons.) In Committee on the Roman Catholic Relief Bill, several motions, made for the purpose of obstructing the progress of the Bill, were negatived by small majorities, and no progress was made with the Bill.

(Lords.) Lord Brougham brought in a Bill to amend the
June Law of Bankruptcy, which was read a first time. The Irish
29. Ecclesiastical Unions Bill was reported. The Commons Inclosure Bill and the Scotch Law of Entail Bill were read a second time.

(Commons.) After another protracted debate on the Sugar Duties the motion for going into Committee was carried against Sir J. Pakington's amendment by 260 to 245. The House then having gone into Committee, the resolutions were agreed to.

June (Lords.) The Public Health Bill, and the Irish Imprisonment
30. for Debt Bill, were read a second time.

(Commons.) In Committee on the Sugar Duties, on the first resolution being put, Mr. Bright moved as an amendment, "that it is not now expedient to make any alteration in the Sugar Act of 1846." The motion gave rise to a long debate, after which the government resolution was carried by 302 to 36.

July (Lords.) The Irish Imprisonment for Debt Bill, and the
3. Joint Stock Companies' Bill, passed through Committee; the Seduction Prevention Bill was reported.

(Commons.) In Committee on the Sugar Duties, on the first resolution being put, Sir J. Pakington moved an amendment, which, after a long discussion, was rejected by 231 to 169. The house having resumed, Sir R. Ferguson brought in a Bill for the speedy punishment of Irish Juvenile Offenders.

July (Lords.) After an interesting debate on the modes of treat-
4. ing juvenile offenders, in which the Duke of Richmond, Lord Kinnaird, Earl Grey, and Lord Brougham, took part, the Game Certificates for Killing Hares Bill was read a third time, and passed.

(Commons.) On the motion to go into Committee on the Irish Encumbered Estates Bill, Sir L. O'Brien moved, that it be an instruction to the Committee to extend the Bill to England and Scotland. The debate on this motion was adjourned.

(Commons.) The Parliamentary Proceedings Adjournment
July Bill was read a second time, as was also the Irish Juvenile
5. Offenders' Bill.

July (Lords.) The Irish Ecclesiastical Unions Bill was read a
6. second time and passed. The Certificates for Killing Hares in Scotland Bill was a read a third time, and passed.

(Commons.) The adjourned debate on Mr. Hume s motion for reform was resumed. After a long debate, the House divided, and the motion was negatived by 351 to 84.

(Lords.) On the motion of Lord Brougham, the Bankrupt
July Law Consolidation Bill was read a second time. The Sale of
7. Beer Regulation Bill, and the Poor Removal Bill, went through Committee. The Irish Imprisonment for Debt Bill was read a third time.

(Commons.) In Committee on the Sugar Duties, Mr. Barkly moved the adoption of a scale of duties different from that of the Government; the motion led to a long debate, which ultimately was adjourned. The House then went into Committee of Supply.

July (Lords.) The Criminal Law Administration Bill was post-
10. poned till next Session at the instance of Lord Brougham. Several Bills were advanced a stage.

(Commons.) The adjourned debate on Mr. Barkly's motion respecting the Sugar Duties was resumed. Mr. Hume condemned both the proposition of Government and the amendment. Lord G. Bentinck explained, in an elaborate speech, his views on the West India interests, and the two pro-

posals before the Committee, of which he would support Mr. Barkly's because it afforded most protection to the colonies. Lord J. Russell having replied, after a few remarks from Mr. Goulburn in favour of the amendment, the House divided, and the amendment was negatived by 180 to 124. The Government resolutions were then agreed to.

July 11. (Lords.) The Sale of Beer Regulation Bill was read a third time. The Bishop of Oxford moved the third reading of the Seduction Prevention Bill, which, after a short discussion, was thrown out by 28 to 21.

(Commons.) The report on the Sugar Duties resolutions was brought up; the resolutions were read a second time, and the date of their operation fixed from July 10 in each year. A Bill founded on them was then ordered to be brought in. The Irish Corn Markets Bill, of which Mr. B. Osborne explained the objects, passed through Committee. Mr. G. Thompson, in a speech relating to the Rajah of Sattara, moved for a Select Committee on the conduct of Col. Ovans; this motion, which led to a warm debate, was negatived by 77 to 8. Mr. Bouverie brought in a Bill to amend the Bankruptcy and Insolvency Laws.

July 12. (Commons.) The Metropolis Sunday Trading Bill passed through Committee, as did also the Administration of Criminal Justice Bill.

July 13. (Lords.) Lord Brougham brought in a Bill to prevent the Seduction of Females, which, having been condemned by Lords Campbell and Denman, was read a first time. The Criminal Law Administration Amendment Bill passed Committee.

(Commons.) On the motion of Lord J. Russell, the orders of the day relating to the Borough Election (No. 2) Bill, and Horsham Borough Bills were discharged, to enable him to bring in a Bill as a substitute for that of Sir J. Hanmer. The rest of the sitting was spent in Committee on the Irish Encumbered Estates Bill, of which the several clauses were passed after repeated divisions.

July 14. (Commons.) The Irish Public Works Bill, after a long debate, was read a second time. The House went into Committee of Ways and Means, which voted 3,000,000*l.* out of the Consolidated Fund for supplies already voted.

July 17. (Lords.) The Criminal Law Administration Amendment Bill, the Joint Stock Companies Bill, the Canada Union Act Amendment Bill, were read a third time. The Copyhold Enfranchisement Extension Bill was read a second time; the Scotch Law of Entail Bill passed through Committee. Lord Brougham withdrew his Seduction Prevention Bill.

(Commons.) Lord J. Russell stated the measures Government intended to proceed with and those which they intended to abandon—among the latter were the repeal of the Navigation Laws and measures connected therewith, and the Irish Electors Qualification and Registration Bill. In Committee on the Rum Duties, the Chancellor of the Exchequer stated the reasons for reducing the differential duties on Colonial and British Spirits from 9*d.* to 4*d.* a gallon, and moved a resolution to that effect. Mr. Fagan opposed the resolution as injurious to the Irish distiller, and moved an amendment; after a long irregular conversation, and several divisions on the question of adjournment, the Government resolution was carried by 116 to 37, and reported to the House. The Administration of Criminal Justice Bill was read a third time.

July 18. (Lords.) The Administration of Justice Bills (1 and 2), on the motion of Lord Campbell, were committed *pro formâ* for the purpose of introducing amendments; the Protection of Justices from Vexatious Actions Bill passed Committee.

July 19. (Commons.) Lord G. Bentinck called attention to the impression prevalent in the City of London, that Government could not legally levy the duties which were now being levied by the resolution of the House; the noble lord having pointed out several blunders relating to the resolutions, and the schedule, recommended the Chancellor of the Exchequer to withdraw the Bill and resolutions, and to ask leave to introduce new ones. The Chancellor of the Exchequer would state in Committee, how he meant to obviate the difficulties kindly pointed out by the noble lord. Mr. Anstey withdrew the Roman Catholic Charitable Trusts Bill. The further consideration in Committee of the Roman Catholic Relief Bill was moved by Mr. Anstey; Mr. Law moved the Committee for that day three months. The amendment was carried by 87 to 47. The Sale of Beer Bill was read a second time.

July 20. (Commons.) The Consolidated Fund Bill was read a third time. The Irish Encumbered Estates Bill was reported. The Corrupt Practices at Elections Bill was read a second time, as was also the Sugar Duties Bill. Mr. Bouverie moved the third reading of the Scotch Places of Worship Sites Bill; Sir J. Graham objected to the further progress of the measure, which he characterized as most objectionable and unnecessary. The amendment was carried by 98 to 59.

July 21. (Lords.) The Consolidated Fund Bill was read a second and a third time, and passed. The reports on the Administration of Justice and the Protection of Justices from Vexatious Actions Bills were brought up.

(Commons.) On the order of the day for going into Committee on the Sugar Duties Bill, Lord G. Bentinck having again pointed out the errors committed in the calculation of the Schedules, called upon Government to abandon "this horribly blundering piece of legislation," and to propose fresh resolutions. After some discussion, the House went into Committee on the Bill, in the Schedules of which so many alterations had to be made that it was at length determined to go through the Bill *pro formâ*, and to have it as amended reprinted for recommittal.

July 22. (Commons.) Lord J. Russell moved for leave to bring in a Bill empowering the Irish Lord Lieutenant to arrest and detain till March 1, 1849, persons suspected of conspiring against the Queen's person and government. After a long debate leave was given to bring in the Bill by 271 to 8. The Bill was brought in, read a first and a second time, committed, reported, read a third time, and passed.

July 24. (Lords.) The Suspension of the Habeas Corpus Act in Ireland passed through all its stages *nem. con.*

(Commons.) The House went into Committee of Supply on the Army Estimates. The Irish Encumbered Estates Bill was read a third time and passed. The Rum Duties Bill was read a second time. The Irish Public Works Bill passed through Committee.

July 25. (Lords.) The Habeas Corpus Act Suspension Bill, and several other Bills, received the royal assent. On the motion of Lord Campbell, the Scotch Registration, and the Scotch Marriage Bills, were severally read a third time, and passed.

(Commons.) Sir W. Molesworth made a motion for the reduction of Colonial Expenditure, and for granting larger powers of self-government to colonists. The debate that followed was adjourned for a fortnight.

July 26. (Commons.) The debate on the Repeal of the Union, which had been adjourned first to July 5 and then to this day, was further adjourned for six months. The Sale of Beer Bill passed through Committee. The report of the Committee of Supply was brought up and agreed to.

July 27. (Lords.) The Public Health Bill was read a third time and passed. On the motion of the Lord Chancellor, the Charity Trusts Regulation Bill was read a second time.

(Commons.) The Committee on the Irish Landlord and Tenant Bill was postponed for a fortnight. The Corrupt Practices at Elections Bill was considered in Committee.

July 28. (Lords.) The Scotch Administration of Justice Bill and the Declaratory Suits Bill were read a second time.

(Commons.) On the order of the day for going into Committee of Supply, Mr. S. Crawford moved that the present distracted state of Ireland demands the instant attention of Parliament with a view to the enactment of remedial measures. After a long discussion the debate was adjourned.

July 29. (Commons.) The adjourned debate on Mr. S. Crawford's motion was resumed, and after another long discussion the motion was rejected by 100 to 24. The House then went into Committee *pro formâ* on the Poor Law Union Charges Bill.

July 31. (Lords.) The Irish Corn Markets Bill was read a second time. The Commons' amendments to the Irish Encumbered Estates Bill were then agreed to.

(Commons.) The Irish Juvenile Offenders Bill was read a third time; the Highway Rates Bill a second time. The Irish Farmers Estate Society Bill was considered in Committee. In Committee on the Sugar Duties Bill Lord G. Bentinck moved an amendment to Schedule 3, relating to the duties on Foreign Sugar, which led to considerable discussion, and was negatived by 87 to 34. The House resumed, went into Committee of Supply on the Ordnance Estimates; and on again resuming, the Rum Duties Bill and the Parliamentary Electors Bill were read a third time.

Aug. 1. (Lords.) The Administration of Criminal Justice Bill, on the motion of Lord Campbell, was read a third time and passed.

(Commons.) The reports on the Sugar Duties Bill and the Committee of Supply were received. In Committee of the whole House on Steam Navigation, resolutions were agreed to for the better regulation of steamers on rivers. The Irish Farmers Estate Society Bill went through Committee.

Aug. 2. (Commons.) The Sale of Beer Bill was read a third. The Windsor Castle and Town Approaches Bill passed Committee.

Aug. 3. (Commons.) The Insolvent Debtors Court Bill passed Committee. The Sugar Duties Bill was reported. The Corrupt Practices at Elections Bill passed Committee as far as clause 4.

Aug. 4. (Lords.) The Earl of Hardwicke brought up the report of the Committee on the Navigation Laws. The Irish Public Works Bill was read a second time. On the motion to go into Committee on the Charity Trusts Bill, Lord Stanley, with a view to defeat the Bill, moved an amendment, which, after a short debate, was negatived by 29 to 19. The Bill then passed through Committee.

(Commons.) The Poor Law Union Charges Bill passed through Committee. The Corrupt Practices at Elections Bill was further considered in Committee; a new clause was brought in to extend the Bill to Scotland. The Irish Farmers Estate Society Bill was read a third time.

Aug. 7. (Lords.) The Irish Reproductive Loan Fund Institution Bill, the Irish Juvenile Offenders Bill, and the Rum Duties Bill, were read a second time.

(Commons.) The Scotch Registration of Births, &c. and Marriage Bills were read a second time. Mr. Ewart made his motion for the substitution of direct for indirect taxation, which after a discussion was withdrawn.

(Lords.) Lord Stanley, in moving for papers relating to the
Aug. election of a sovereign of Sicily, raised a debate on the conduct of
8. the Government in the affairs of the Two Sicilies. On the motion of the Lord Chancellor, a Bill was read a first time to renew the Irish Illegal Societies Suppression Act, with a special clause against the revolutionary clubs of the Young Ireland party.

(Commons.) Mr. H. Berkeley moved the expediency of adopting the Ballot System in elections for Members of Parliament; a debate followed, after which the motion was carried by 86 to 81.

Aug. (Commons.) On the motion of Mr. Bouverie, the Bankruptcy
9. Bill was read a second time. The Irish Fisheries Bill passed Committee. The remainder of the sitting was spent in Committee of Supply.

(Lords.) The Rum Duties Bill was read a third time and
Aug. passed. Earl Grey, laying on the table papers relative to Emi-
10. gration to Australia, made a statement of the prosperous progress of the Australian colonies. The Irish Illegal Societies Suppression Bill was read a second time.

(Commons.) The Renewable Leasehold Property Conversion Bill, and several other Bills, passed through Committee. In Committee on the Navigation Laws, Mr. Labouchere moved a resolution to enable the Government to introduce a Bill embodying their intentions on this subject. The Bill was brought in, but was not to proceed further this Session. The Corrupt Practices at Elections Bill finally passed Committee.

(Commons.) The Lord Advocate withdrew the Scotch Regis-
Aug. tration of Births, &c. and Marriage Bills. The remainder of
11. the sitting was spent in Committees of Supply on the Navy and Miscellaneous Estimates.

Aug. (Lords.) The Illegal Societies Suppression Bill passed through
14. Committee. The Parliamentary Electors Bill was read a second time on the motion of Lord Beaumont.

(Commons.) On the motion for going into a Committee of Supply, Lord G. Bentinck moved an address to the crown on the subject of the omitted correspondence of the Canadian officials respecting the Navigation Laws; and complained of the practice of the Colonial Office in selecting despatches and correspondence favourable to its own views, and rejecting whatever was of an opposite tendency. Lord J. Russell having replied, the motion was negatived without division. The remainder of the sitting was spent in Committee of Supply.

(Lords.) On the motion of Lord Beaumont, the Parliamen-
Aug. tary Electors Bill passed Committee. The Irish Illegal Societies
15. Suppression Bill was read a third time and passed.

(Commons.) In Committee of Supply on the proposal of
Aug. 72,500*l.* for salaries and expenses of the Foreign Office, a debate
16. was raised on British interference in the affairs of Italy, Spain, and Portugal. In the 5 o'clock sitting on the motion for resuming the Committee of Supply, Mr. Urquhart moved an amendment condemnatory of the policy of Ministers respecting the Slave Trade; after a debate the amendment was negatived, and the House went into Committee. On the vote for the salaries and expenses of the Foreign Office being again put, a further debate on foreign policy arose, after which the vote was agreed to, as were various others.

(Lords.) The Poor Law Union Charges Bill and the Poor
Aug. Law Union District Schools Bill were, on the motion of the Mar-
17. quess of Lansdowne, read a second time. The Irish Fisheries Bill and the Irish Police Force Bill were read a second time.

(Commons.) The Illegal Societies Suppression Bill was read a second time. The Corrupt Practices at Elections Bill was reported. Lord Palmerston moved the second reading of the Diplomatic Relations with the Court of Rome Bill, which, after a long debate, was carried by 125 to 47.

Aug. 18. (Lords.) The Steam Navigation Bill and the Irish Farmers Estate Society Bill were read a second time.

(Commons.) On the motion for going into Committee of Supply, Mr. Christy called attention to the proposed grant of Vancouver's Island to the Hudson's Bay Company, and called upon Government to withhold the grant till further inquiry. Mr. Hawes defended the grant; Mr. Gladstone condemned it, and characterized the Hudson's Bay Company as one in which the "evils of monopoly had their rankest development." Mr. C. Buller defended the course taken with reference to Vancouver's Island as the best and wisest that could be taken. Mr. Hume objected to the Colonial Secretary taking upon himself to dispose of such interests as those granted to the Hudson's Bay Company, and moved an address to the Crown to prevent the grant. Mr. Wyld also opposed the grant, which was defended by Lord J. Russell. After a few words from Mr. Goulburn, Mr. Hume's amendment was negatived by 76 to 58. The House went into Committee of Supply. On resuming, the Corrupt Practices at Elections Bill was read a third time and passed. The other Bills on the table were advanced a stage.

Aug. 21. (Commons.) In Committee of Supply, votes for the colony of New Zealand and the settlement of Labuan were agreed to. On resuming, several Bills were forwarded a stage.

Aug. 22. (Lords.) Lord Denman moved an address to the Crown on the subject of the extinction of the Slave Trade, proposing to make slave trading piracy. The Marquess of Lansdowne and Lord Brougham having spoken, the motion was negatived without division. The third reading of the Parliamentary Electors Bill, moved by Lord Beaumont, was carried on a division by 31 to 28.

(Commons.) The Sugar Duties Bill was read a third time and passed. Mr. Herries moved a resolution, pledging the House to take into serious consideration, early in the next Session, the reports of the Committees of the two Houses of Parliament on the commercial distress of 1847 and the Bank Act of 1844. A long discussion followed, after which the motion was negatived.

Aug. 23. (Commons.) In Committee of Supply, several votes of the Miscellaneous Estimates were agreed to. The Poor Removal Bill was read a second time.

Aug. 24. (Lords.) Lord Monteagle, in moving for papers, raised a debate on the subject of Vancouver's Island. The Corrupt Practices at Elections Bill was read a second time, but was to proceed no further.

(Commons.) The Irish Illegal Societies Suppression Bill was read a third time. On the motion for going into Committee on the Diplomatic Relations with the Court of Rome Bill, Mr. Anstey moved the Committee on the Bill for that day three months. The debate which followed continued all the morning and a part of the evening sitting, and was negatived by a large majority. In Committee several amendments proposed on the clauses of the Bill were also rejected by large majorities. The chairman then reported progress.

Aug. 25. (Lords.) The Irish Fisheries and Farmers Estate Society Bills were read a third time and passed.

(Commons.) The Diplomatic Relations with the Court of Rome Bill finally passed Committee. In Committee of Ways and Means, the Chancellor of the Exchequer made another Financial Statement, and moved for

10,584,871*l.* 9*s.* 10*d.* to make good the Supply of 1848-9, which was voted, as was also a resolution, authorizing the raising of 2,000,000*l.* by the issue of Exchequer Bills.

Aug. 28. (Lords.) The Sugar Duties Bill, on the motion of Lord Grey, was read a second time. The Poor Law Union Charges Bill was read a third time and passed.

(Commons.) In the morning sitting, the West India Colonies Mauritius Bill was read a second time, as was also the Savings Bank Bill. The Spirit Dealers Bill and the British Spirits Warehousing Bill passed Committee. The second reading of the Copper and Lead Duties Bill, which Lord G. Bentinck moved for that day six months, was, after a debate, carried by 77 to 21.

Aug. 29. (Lords.) The Nuisances and Contagious Diseases Bill, of which the Marquess of Lansdowne explained the objects, was read a second time.

(Commons.) The Diplomatic Relations with the Court of Rome Bill was read a third time. The Consolidated Fund Bill and the Exchequer Bills Bill passed Committee, as did also the Savings Banks Bill.

Aug. 30. (Lords.) The Irish Fever Bill, the Dublin Police Bill, the Nuisances and Contagious Disorders Bill, the Irish Transfer of Landed Property Bill, and several other Bills passed Committee.

(Commons.) On the order of the day for the third reading of the Distilling from Sugar Bill, Mr. D'Israeli, in a characteristic speech, reviewed the business of the Session. Lord J. Russell having replied, after a few words from Mr. Hume and Mr. B. Osborne, the Bill passed. The Copper and Lead Duties Bill passed Committee.

Aug. 31. (Lords.) The royal assent was given by commission to the Public Health Bill, and a great number of other Bills. The Marquess of Lansdowne laid on the table returns of the Agricultural Produce of Ireland. The Bills on the table were advanced a stage.

(Commons.) The Consolidated Fund Bill was read third time and passed, as was also the Savings Banks Bill, which the Chancellor of the Exchequer stated would be limited to Ireland. Mr. G. Thompson moved the transference of the property of the late Rajah of Sattara to Shahoo Maharaj, the late Rajah's adopted son. Sir J. Hobhouse, in opposing the motion, passed a high eulogium on the bravery and sagacity of Lieutenant Edwardes. The motion was withdrawn.

Sept. 1. (Lords.) The City of London Sewers Bill was read a second time. The Copper and Lead Duties Bill was read a first time.

Sept. 2. (Lords.) The Copper and Lead Duties Bill was read a second time, and passed through Committee. The other Bills on the table were advanced a stage.

Sept. 4. (Lords.) The royal assent was given by commission to the Diplomatic Relations with the Court of Rome Bill, the Sugar Duties Bill, and a great number of other Bills. The City of London Sewers Bill, the Copper Duties Bill, and the Exchequer Bills Bill were read a third time.

Sept. 5. (Lords.) Her Majesty having taken her seat on the throne, the Commons were summoned to the bar, and the speaker briefly recapitulated the main business of the Session, in conclusion presenting for Her Majesty's assent the Consolidated Fund Bill and the Exchequer Bills Bill. The royal assent was also given to some other Bills. After a speech from the throne, the Lord Chancellor declared the Parliament to be prorogued.

XV.—PRIVATE BILLS OF THE SESSION OF PARLIAMENT, 1847-48.

[11 and 12 Victoriæ.]

I. Numerical Abstract of the Petitions and Private Bills for the Session 1847-8:—

Petitions presented to the Commons and Bills brought from the Lords	272
Bills read a first time	263
Bills read a second time	245
Bills read a third time	204
Bills which received the Royal Assent	197

The number of Bills was 264 less than in 1847, and the number which received the Royal Assent was 138 less.

II. Comparative Classification of Bills for Ten Years:—

Bills passed.	1839.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
Agriculture	22	15	25	12	15	11	6	10	3	3
Companies	3	14	10	10	5	10	9	10	22	9
Improvement of Towns, &c.	46	46	44	34	49	26	50	79	58	42
Internal Communication	49	59	48	50	42	51	127	277	190	95
Navigation, &c.	8	10	13	18	12	16	15	25	24	18
Private Regulation	43	43	36	47	28	47	38	54	38	30
Totals .	171	187	176	171	151	161	245	455	335	197

Average number of Private Bills passed annually from 1839 to 1843 inclusive, 171; and from 1844 to 1848 inclusive, 309.

III. Abstract of Petitions and Private Bills, Session 1848:—

I. AGRICULTURE:—

	Petitions.	Passed.	Not passed.
1. Inclosures (59 were passed under the general Public Acts).			
2. Drainage	3	3	0
II. COMPANIES	11	8	3
III. IMPROVEMENT OF TOWNS AND DISTRICTS:—			
1. General Improvements . . .	14	9	5
2. Gas	7	7	0
3. Water	11	6	5
4. Bridges, Churches, Cemetery, &c. .	17	13	4
5. Municipal Regulation . . .	11	7	4
	60	42	18
IV. INTERNAL COMMUNICATION:—			
1. Roads	15	11	4
2. Railways	121	83	38
	136	94	42
V. NAVIGATION, &c.—			
1. Harbours, Piers, and Docks . .	15	12	3
2. Rivers and Canals	12	6	6
3. Ferries	2	2	0
	29	20	9

	Petitions.	Passed.	Not Passed.
VI. Private Regulation	33	31	2
Totals* . .	272	197	75

I. Agriculture and Draining:—

Inclosure Acts are now in general removed from the Private Bills, and are provided for by public Acts. In this session 59 *places have been included in these Acts, as noticed at pages* 126 *and* 147.

To amend the Acts for improving the drainage and navigation of the Middle Level of the Fens, and for other purposes connected therewith.

To improve the river Nene and Wisbech river, and the drainage of lands discharging their waters into the same.

For draining, warping, and otherwise improving Thorne Moor, in the West Riding of Yorkshire.

II. Companies.—For the incorporation, establishment, and regulation of "Price's Patent Candle Company," and for enabling the said Company to purchase and work letters patent.

For incorporating the North of Scotland Fire and Life Assurance Company, under the name of "The Northern Assurance Company;" for enabling the said company to sue and be sued, and to take, hold, and transfer property; for confirming the rules and regulations of the said company; and for other purposes relating thereto.

For enabling "The Patent Galvanized Iron Company" to purchase and work certain letters patent.

For dissolving and facilitating the winding-up of the affairs of "The Patent Galvanized Iron Company," trading under the firm or style of Malins and Rawlinsons.

To enable Low's Patent Copper Company to work certain letters patent.

For incorporating the Scottish Provident Institution, for confirming the laws and regulations thereof, for enabling the said society to sue and be sued, to take and hold property; and for other purposes relating to said society.

For incorporating "The West of England and South Wales Land Draining Company;" and for enabling owners of limited interests in land to charge the same for the purposes of drainage, irrigation, warping, embankment, reclamation, inclosure, and improvement.

To enable "The Timber Preserving Company" to purchase and work certain letters patent, and for confirming the same.

For the establishment of the "Farmers' Estate Society of Ireland."

III. Improvements in Towns and Districts.—*General Improvements.*—To amend, extend, and enlarge the powers of an Act passed in the Session of Parliament held in the fifth and sixth years of the reign of her present Majesty, intituled An Act for better lighting, cleansing, sewering, and improving the borough of Leeds, in the county of York; and to give to the mayor, aldermen, and burgesses of the said borough further and more effectual powers for draining and sewering the said borough.

For more effectually watching, cleansing, and lighting the streets of the city of Edinburgh and adjoining districts, for regulating the police thereof, and for other purposes relating thereto.

* There appears a discrepancy between the Private Bill Table, published by direction of the House of Commons, and the List of Acts as printed. In the latter, there are only 190 Acts given; in the former 197. It arises from the seven having been in the last stage declared to be Public Acts.

For the amendment and continuation of the burgh customs, and water, shore, and harbour rates, of the burgh of Dunbar, and for other purposes connected with the said burgh, and the supply of water to the same, and the harbour thereof.

To provide for the municipal and police government of the burgh of Leith, and for other purposes relating thereto.

For better paving, lighting, watching, sewering, draining, cleansing, and otherwise improving the town and neighbourhood of Huddersfield, in the West Riding of the county of York, for maintaining an efficient police, and removing and preventing nuisances and annoyances therein.

For the improvement of the borough of Londonderry.

For the more effectually paving, lighting, watching, draining, cleansing, and otherwise improving the town and neighbourhood of Walsall, in the county of Stafford, for improving the markets, and for the better assessing the poor's rates, highway rates, church rates, and other local rates within the parish of Walsall in the said county.

For granting further powers to the Clerkenwell Improvement Commissioners for the purpose of enabling them to complete the new street and the improvements connected therewith.

To provide for the sanatory improvement of the city of London and the liberties thereof, and for the better cleansing, sewering, paving, and lighting the same.

Gas.—For lighting with gas the township of Morley, in the parish of Batley, in the West Riding of the county of York.

For amending "The Bristol and Clifton Gaslight Act, 1847."

For incorporating the Southampton Gaslight Company, and for supplying at a limited price the town and neighbourhood of Southampton with gas.

To amend and enlarge the provisions of an Act passed in the ninth and tenth years of the reign of her present Majesty, intituled An Act for better supplying with gas the city of Worcester and the suburbs thereof, and to enable the Worcester New Gaslight Company incorporated by the said act to raise a further sum of money.

To amalgamate the Liverpool Gaslight Company and the Liverpool New Gas and Coke Company.

To amend and enlarge the powers of an act passed in the second year of the reign of his Majesty King George the Fourth, and of an act passed in the sixth year of the reign of her present Majesty, for supplying the towns of Old and New Brentford, in the county of Middlesex, and other places, therein mentioned, with Gas.

To repeal the provisions of two several acts for lighting with gas the town of Brighthelmstone, in the county of Sussex, and for making other provisions in lieu thereof.

Water.—For supplying the parish and township or borough of Folkestone with water.

To enable the company of proprietors of Lambeth Waterworks to construct additional works, and for better supplying the inhabitants of the parish of Lambeth, in the county of Surrey, and other parishes and places, with water.

For the better supplying with water the royal burgh of Stirling and suburbs thereof.

For better supplying with water the borough of Derby, and certain parishes and places adjacent thereto, in the county of Derby.

To authorize the company of proprietors of the Forth and Clyde Navigation and the Airdrie and Coatbridge Water Company to enter into Agreements for certain purposes.

To alter, amend, and enlarge the powers and provisions of "The Manchester Corporation Waterworks Act, 1847."

Churches, Markets, Cemeteries, &c.—To authorize the endowment and consecration of a new chapel at Marlborough, and the annexation of the same to Marlborough College.

For providing a market for the sale of cattle and other animals in the borough of Shrewsbury, in the county of Salop.

For removing and regulating the markets and fairs held in the borough and liberties of Oswestry, and for completing and providing convenient market places and places for fairs, with proper approaches thereto.

For establishing a market and fair in the borough of Avon, otherwise Aberavon, in the county of Glamorgan.

To raise a further sum of money for the court houses and offices at Hamilton, and to alter the mode of assessing and levying certain rates and assessments in the county of Lanark.

For extending the time for building a bridge over the river Avon from Clifton to the opposite side of the river in the county of Somerset.

For enabling the mayor, aldermen, and burgesses of the borough of Leicester to establish a general cemetery for such borough.

For the consecration of a portion of the Manchester general cemetery.

For establishing a general cemetery for the interment of the dead in the parish of Saint Mary-on-the-Hill, in the city of Chester.

To enable the Birkenhead Dock Company to sell or lease their land.

To enable the Herculaneum Dock Company to sell or lease lands at Toxteth Park, in the county of Lancaster.

For the regulation of certain public sufferance wharves in the port of London.

To enable the president, vice-presidents, treasurer, and members of the Philanthropic Society to sell and grant leases of the lands belonging to them, and to purchase other lands; and for other purposes relating to the said society.

Municipal Regulations.—For better assessing and collecting the poor rates, lighting, watching, and highway rates, in the parish of Kettering, in the county of Northampton.

To alter, amend, and enlarge the powers and provisions of an Act passed in the ninth year of the reign of his Majesty King George the Third, for establishing and governing the Magdalen Hospital.

To effect an agreement between the Visitors of the Lunatic Asylum for the county of Leicester and the corporation of the borough of Leicester, for the admission of lunatic paupers from the said borough into the said asylum.

For abolishing the duties now payable under the Act of 7 George I., commonly called Saint George's Chapel Act, and for otherwise varying the provisions thereof, and enacting other duties and provisions in lieu thereof.

For facilitating the transfer of the Bristol Docks to the mayor, aldermen, and burgesses of the city of Bristol, and for other purposes.

To incorporate the members of the institution called "The Orphan Working School," now established at Haverstock Hill, Hampstead-road, in the county of Middlesex, and to enable them the better to carry on their charitable designs.

To amend the Act for the more easy recovery of small debts and demands within the city of London and the liberties thereof.

IV. Internal Communication.—*Roads.*—To amend three Acts of his Majesty King George the Third, and another Act of his late Majesty King William the Fourth, for amending certain mileways leading to Oxford, and

making improvements in the university and city of Oxford, the suburbs thereof, and adjoining parish of Saint Clement, and for other purposes.

For repealing an Act passed in the sixth year of the reign of his Majesty King George the Fourth, for making a road from Battlebridge to Holloway, in the county of Middlesex.

For repairing the road from Nantwich to Wheelock Wharf, in the county palatine of Chester; and to repeal an Act passed in the fifty-sixth year of the reign of his Majesty King George III., and to continue and extend the trust.

To amend an Act passed in the eleventh year of the reign of his late Majesty King George the Fourth, intituled An Act for repairing and maintaining the roads from the town of Dundalk, in the county of Louth, to the towns of Castle Blayney and Carrickmacross, in the county of Monaghan.

For repealing an Act of the ninth year of the reign of his Majesty King George the Fourth, intituled An Act for making, repairing, and improving certain roads leading to and from Truro, in the county of Cornwall, and for making other provisions in lieu thereof; for forming, vesting, and improving certain roads; and for continuing and extending the Truro Turnpike Trust.

To amend and continue the term of an Act passed in the fifty-seventh year of the reign of his late Majesty King George the Third, intituled An Act to continue the term of an Act passed in the Parliament of Ireland in the thirty-fifth year of his present Majesty, for improving and repairing the turnpike road leading from Dublin to Mullingar, and for repealing the several laws heretofore made relating to the said road.

For authorizing the trustees of the Tadcaster and Halton Dial turnpike road, to make a diversion or alteration of such part of the line of the Tadcaster and Halton Dial turnpike road as lies in the parish of Tadcaster, in the West Riding of the county of York.

To enable the trustees of the Worcester turnpike road to make certain new roads, and to improve and more effectually maintain the several roads leading into and from the city of Worcester.

For continuing the term of an Act passed in the eighth year of the reign of his Majesty King George the Fourth, intituled An Act for more effectually repairing and maintaining the road from Hulme, across the river Irwell, through Salford to Eccles, in the county palatine of Lancaster, and a branch of road communicating therewith, so far as relates to the road from Hulme to Eccles, for the purpose of enabling the trustees to pay off the debt now due on the said roads.

For altering and amending an Act passed for maintaining the road from Crossford Bridge to Manchester, and a branch connected therewith.

For more effectually repairing and maintaining the road from Richmond to Reeth, in the county of York.

The Acts passed for Railways, 83 in number, are noticed at page 95.

V. NAVIGATION.—*Harbours, Piers, Docks, Canals, &c.*—For maintaining and improving the harbour of Looe, in the county of Cornwall, and for taking down the present bridge between East and West Looe, across the said harbour, and erecting a new bridge instead thereof.

For maintaining, regulating, and improving the harbour of Barrow, in the county palatine of Lancaster.

To enable the warden and assistants of the harbour of Dover, in the county of Kent, to raise a further sum of money.

To improve the harbour of Burntisland, in the county of Fife.

For constructing a harbour at Leck Robie, and for maintaining the harbour of Little Ferry, both in the county of Sutherland.

For the better regulating and improving the port and harbour of New Ross, in the counties of Wexford and Kilkenny.

For constructing and maintaining a pier, jetty, or stage, with necessary approaches thereto, at Dover, in the county of Kent.

To authorize the trustees of the Liverpool Docks to build warehouses, to construct additional wet docks and other works, and for other purposes.

To enable the Plymouth Great Western Dock Company to raise further capital, and to authorize the Great Western, the Bristol and Exeter, and South Devon Railway Companies to subscribe to the Plymouth Great Western Docks; and for other purposes.

To alter and amend the several Acts relating to the Birkenhead Commissioners Docks, and to transfer the several powers of the said Commissioners to a corporate body, to be entitled "The Trustees of the Birkenhead Docks;" and for other purposes.

To authorize the Company of proprietors of the Leicester Navigation to abandon the railways or stone roads and water levels commonly known as "The Forest Line," and to enable them to sell the lands over which the same passes, and the reservoir and other works connected therewith.

For the better carrying on the affairs of the Grand Canal Company.

To amend the Acts relating to the Newry Navigation.

For the further extension and improvement of the ferry, harbours, piers, and other works at Queensferry, on the Frith of Forth; and for certain other purposes connected therewith.

For establishing direct steam communications across the river Tyne between the towns of North and South Shields, and between other places in the counties of Durham and Northumberland.

For improving the steam communication across the river Humber, belonging to the Manchester, Sheffield, and Lincolnshire Railway Company; for erecting a pier at Kingston-upon-Hull, and enlarging the works at New Holland; for making a connecting line, near Habrough, in the county of Lincoln; for regulating the pilotage of the port of Great Grimsby; and for amending the Acts relating to the Manchester, Sheffield, and Lincolnshire Railway Company.

Of the 31 *Acts for* PRIVATE REGULATION, *the only one requiring notice is for the better administration of certain charities, in the parish of Sandbach, in Cheshire.*

XVI.—PUBLIC PETITIONS.

Session 11 and 12 Victoriæ.

	No. of Petitions.	No. of Signatures.
Parliamentary.		
For extension of Elective Franchise	9,005	290,559
For adoption of Universal Suffrage.....	577	2,018,880
For Repeal of Union with Ireland	404	464,238
For Vote by Ballot	5	4,736
For Hammersmith, &c. to return Two Members....	2	2,958
Other Petitions relating to Parliamentary subjects..	63	8,600
Ecclesiastical.		
For abolition of Church Rates	13	5,273
Against removal of Jewish Disabilities	832	56,986
For removal of ditto	889	302,728
For better observance of Lord's Day	499	106,569
For granting Sites for Places of Worship (Scotland)	498	62,804
For alteration of Law as to ditto	114	13,903

	No. of Petitions.	No. of Signatures.
Against Roman Catholic Relief Bill	116	15,975
In favour of ditto	127	21,361
Complaining of conduct of Roman Catholic Priests (Ireland)	106	14,627
Against Roman Catholic Trusts Bill	107	17,203
Other Petitions relating to Ecclesiastical subjects ..	232	23,247
Colonies.		
Against the present Scheme for African Emigration	11	3,617
For Inquiry into the case of the Rajah of Sattara ..	112	63,716
West India Colonies, for consideration	44	12,610
Newfoundland, complaining of misappropriation of Funds granted for Relief of Sufferers by Fire..	1	1,833
Against Transportation System in New South Wales and Van Diemen's Land	5	7,346
Other Petitions relating to Colonial subjects	30	4,036
Taxes.		
Annuity Tax (Scotland), for abolition	3	2,610
Attorneys' Certificates, for repeal of Duty	177	3,110
Copper and Lead Duties Bill, against.....	20	9,635
Excise Laws, for inquiry	45	5,023
Expenditure, &c. for retrenchment	7	3,193
Legacy Duties, for exemption of Charities	77	2,868
Ministers' Money (Ireland), for abolition	11	18,546
Property Tax, against continuance, as now levied ..	291	65,591
Taxation, for revision.....	5	1,005
Tea, for reduction of Duty	20	10,615
Tea, Coffee, Sugar, &c. for reduction of Duties....	11	925
Windows, for repeal of Duty	34	10 740
Other Petitions relating to Taxes.....	121	3,599
Miscellaneous.		
Bakers, for inquiry into grievances	79	8,461
——— for shortening hours of labour	1	59
Bankruptcy and Insolvency, for alteration of Law ..	8	1,789
Beer Retailers, for placing them on the same footing as Licensed Victuallers.....	9	881
Beer Houses, for discouragement.....	2	414
Benefit Building Societies Act, for amendment	1	342
Benefit Societies Act, for extension.....	327	7,888
Coercive Measures (Ireland), &c., against	21	13,907
Commons and Waste Lands (Ireland) for inclosure	11	3,154
Copyholds, for enfranchisement	1	150
Crime and Outrage (Ireland) Bill, against, &c.....	26	37,930
Crown and Government Security Bill, against	26	5,691
Diplomatic Relations with Rome Bill, against	277	46,045
Dog Carts, for suppression, and for levying tolls on	3	368
Education, against present system.....	1	38
——— for alteration of Law	25	432
——— for secular education	16	10,487
——— respecting Roman Catholics	1	458
——— (Ireland), for encouragement to Schools, in connexion with Church Education Society	278	32,517
——— against present system	1	168

	No. of Petitions.	No. of Signatures.
Education, in favour of present system	2	1,688
Factories Act, for alteration	5	1,302
Foreign Theatres, for restricting in Metropolis	6	959
Frost, Williams, and Jones, for a free pardon	21	30,678
Game Laws, for repeal	45	7,360
Habeas Corpus Suspension (Ireland) Bill, for extension to Liverpool	2	1,659
——— against extension to Liverpool	1	2,176
Health of Towns, for sanitary regulations	118	20,083
——— (1847) in favour	1	105
Highways Bill, against, and for alteration, &c.	8	2,401
Interment in Towns, for discontinuing	8	4,124
Landlord and Tenant (Ireland), for alteration of law	53	29,825
——— Bill, against	50	38,322
——— in favour	1	740
Liverpool Port	2	17,369
Medical Profession, for reform	16	587
Mendicancy, for alteration of law	31	608
Militia Staff, for increasing efficiency of	1	1,240
National Land Company, for alteration of law	9	204,183
Naval and Military Expenditure, for retrenchment	167	162,864
——— for retrenchment; and Militia, against enrolment	38	5,854
Navigation Laws, against repeal	139	49,231
——— for repeal	13	2,494
Pensioners (Army), as to deductions from half-pay	9	2,187
Poor Law, for alteration	38	5,579
——— (Ireland) for alteration	57	8,090
——— for inquiry	30	790
——— Officers, for a Superannuation Fund	138	2,091
——— (Scotland) for amendment	8	4,475
——— Union Charges Bill, for alteration	30	243
——— in favour	7	201
Poor Removal Act, for repeal or alteration	8	4,830
Provident Associations Fraud Prevention Bill, against	7	2,161
Public Health Bill, against	23	9,373
——— for alteration	142	16,136
——— in favour	208	17,518
Punishment of Death, for abolition	67	21,527
Railways, &c. (Scotland)	18	6,442
Rating and Settlement, for alteration of law	8	462
Sale of Beer Acts, for repeal	2	332
———, &c. Bill, in favour	8	1,073
Sale of Bread, &c. Bill, against	11	1,147
Savings Banks (Ireland)	2	839
Scientific Societies Bill, against	12	1,029
Serpentine River	1	2,933
Settlement, for alteration of Law, &c.	24	6,344
Turnpike Trusts, for consideration	30	1,540
War, for referring disputes to arbitration	82	14,133
Other Petitions relating to Miscellaneous Petitions	813	26,762

XVII.—PUBLIC IMPROVEMENTS.

1. General Improvements.

Contrary to all reasonable expectation, very little visible progress has been made with the new building at Buckingham Palace; by which it would seem that the urgent necessity for increased accommodation has abated. The Marble Arch is still standing, and will perhaps continue to do so up to the very latest moment that it can be allowed to remain, there being, it seems, considerable difficulty in determining how best to dispose of it. Several suggestions have appeared on the subject, but they have been merely the gratuitous hints of individuals; nor has even rumour assigned any destination for the Arch, that is contemplated in official quarters. Another building, whose progress is most remarkably slow, is the British Museum. Even the work of mere removal is much lengthier than that of the complete fabrication of many structures which are by no means inconsiderable. The old portal appears singularly loath to depart, and allow the portico and colonnades to be fully exposed to view from the street; and, until that shall have been done, there is nothing for us to add to what we have said on former occasions. One thing, however, upon which a good deal will depend, is the manner in which the court is to be enclosed from the street. Perhaps nothing more is contemplated than plain iron palisading; but, at all events, there must be something of a porter's lodge also, which will, probably, assume some degree of architectural character. Now it strikes us, that unless it be better disposed of, the Marble Arch at the Palace might be transferred to the Museum, and re-erected as a portal, it being of course adapted to such purpose by the addition of a room to it on each side, for the porter's habitation. It would not at all obstruct the view of the portico too much; perhaps rather set it off than the contrary, and produce piquant combination and effective grouping. That arch may be very much worse applied. Better applied it undoubtedly might have been, by being retained as a feature in the new façade of the Palace; yet, easily as that might have been effected, it is not now to be thought of.

With the Palace of Westminster no very great or visible progress has been made externally, nor is the House of Commons yet finished, at least not opened for business. We behold however—and to behold is to admire it—the royal porch forming the lower part of the Victoria Tower, than which it is not easy to conceive a more august gothic portal. Although, as regards the design and character of the large open arch on the south and west side, the idea may be traced to that singularly fine specimen of its kind, the Erpingham Gate at Norwich, this porch, taken as a whole, may be pronounced unrivalled; and even taken by itself, it constitutes a noble work. It is stamped by a greater degree of grandeur, and is far more impressive in effect, than any other part of the edifice, at least any yet executed. Here decoration has been well bestowed, since it displays itself admirably, which is more than can be averred of some other portions of the general edifice, where embellishment has been so lavishly

applied as to lose its value, and to produce confusion quite as much as richness; or has been bestowed on what is, if not actually out of sight, so situated as not to admit of being seen in detail. There may perhaps be very much to admire, for instance, in the river front; but, unless to be tantalized is to be satisfied, dissatisfaction may very reasonably be expressed, not indeed as regards the work itself, but that so much elaborate and highly-finished decoration should have been applied to a façade so unfortunately situated for showing it. With regard to the Victoria Tower, its position in the general plan has been strongly objected to by some, more especially by the writer of an article in the "Westminster Review;" and there is, perhaps, room for apprehending that so bulky and lofty a mass may, however excellent in itself, be in some respects prejudicial to unity of ensemble. Still, as that tower has been contemplated from the very first, we must suppose that its ultimate effect has been duly considered by Mr. Barry, who does not seem at all disposed to abandon that original and perhaps favourite idea. Some of the other towers, which have been ingrafted upon the first design, are just beginning to appear; and the south end of Westminster Hall, or rather that side of St. Stephen's Porch at the extremity of the Hall, is advancing to completion; but with the exception of that and the Victoria Porch no progress, nor even commencement, has been made with the works of the exterior on the west or land side, unless it be the west elevation within New Palace Yard. Whether this last is ultimately to show itself as a portion of the general exterior, or be screened out, together with the Hall, by another range, along Margaret-street, we do not yet know; nor, indeed, does that part of the plan appear to be definitively settled. What shows itself towards New Palace Yard, by no means equals other portions of the structure, which cannot be viewed so distinctly. Although it is carefully finished up in all its details, there is something both monotonous and tame in that elevation; and the number of windows, nearly all similar to each other, gives it a character somewhat at variance with, at least not very expressive of, the idea of an edifice for the legislature. Whether the idea of removing Westminster Bridge be abandoned altogether or merely laid aside for the present, that scheme has ceased to be spoken of; as is the case with one or two others that have, at different times, been mentioned by us. Among such unrealized intentions are, the New Law Courts, and a building for a Public Record Office; although, in both cases, there was more than unauthenticated rumour upon which to ground expectation, official reports appearing to be a sufficient earnest that measures were really being taken for providing those apparently much-required buildings. However, it is not our fault if nothing has yet come of some of the schemes which we have had occasion to speak of, from time to time; and even should nothing at all come of them eventually, it is proper that they should be recorded, if only as ideas and intentions which circumstances will have frustrated. Whether such will be the case with King's College Hospital, which is now spoken of as intended to be erected on a site purchased by the Committee of Management, between Carey-street, Lincoln's Inn Fields, and St. Clement's-lane, remains to be seen. There certainly

seems to be a fatality about that neighbourhood, since, many as have been the projects for improvements planned for it, not one of them has yet taken effect. It was there that Mr. Barry's new Law Courts were proposed to be erected, the whole space between Carey-street, Chancery-lane, Fleet-street, and the Strand, being cleared away to form a site for them; and it was on the other side of Chancery-lane, in a line continued from Carey-street and extending beyond Fetter-lane, that, according to Mr. Pennethorne's plan, the Record Office was proposed to be built. Should the Hospital above-mentioned be erected, it may break the spell and lead to further improvements where improvement is much needed, and where almost any change would be improvement. At all events one alteration is about to take place in that vicinity; what was originally the Lincoln's Inn Fields Theatre, in Portugal-row, and lately occupied as Copeland's china-warehouses, being taking down, in order to enlarge the Museum of the College of Surgeons. This addition to it will greatly extend what is now the back front of the College, and affords opportunity for a considerable degree of architectural display, should the whole of that south side be made to present one uniform elevation. At present, indeed, the situation is hardly such as either to call for or favour any sort of display; but one improvement leads to another, and a very great improvement it will be to the neighbourhood, should the Hospital above-mentioned be erected at the other end of that line of Carey-street which runs into Portugal-street.

Although it is any thing but an improvement, a very great alteration is taking place in the Regent's Quadrant. The work of demolition has been commenced, and the whole of its Doric colonnades, which have for many years formed the most striking piece of scenery in the street architecture of the metropolis will have disappeared, perhaps before the end of the present year (1848). For the richness and regularity arising from two such continuous lines of columns, we shall now have the usual common-place and mesquinerie. And, while the Quadrant will be stripped into comparative architectural insignificance, something is lost to the public on the score of convenience also, since a dry, clean, and sheltered footpath amounts to a great public convenience in a climate like ours. But, on the other hand, it has been alleged, and very justly, that the shelter which these colonnades afforded, in all weathers, to persons of questionable character, was destructive to the value of the shop property. Taste cannot preside over our street arrangements when it is not conformable to our habits and notions of propriety.

Mr. Vernon's noble donation of his entire collection (163 pictures, all by English artists) to the National Gallery, has occasioned much talk as to the propriety, or rather necessity, of erecting a new gallery that shall be capable of not only accommodating the present number of pictures, but provide for probable future increase. The only doubt seemed to be whether another structure would be erected upon some different site, or the present building be enlarged and otherwise improved. Uncertainty seemed to be all at once dispelled by a statement, which assured us very confidently that Mr. Barry

had submitted to the proper authorities a design for enlarging the existing Gallery, according to which the whole of the front would be altered, and be raised by the addition of another story; which last would be, if not absolutely impracticable, very difficult to be accomplished satisfactorily, because all the rooms are now lighted from above, and could be so no longer should another floor be placed over them. Incorrect as that statement was with regard to particulars, and in giving us to understand that matters were settled — that Mr. Barry was to be employed, and that the plan prepared by him had been approved of and would be executed, it was correct as to one main and very important point; it now appearing from the published Report of the Select Committee appointed "to consider the best mode of providing additional room for works of art, &c.," that they are in favour of the present Gallery being altered and enlarged. They are unanimously of opinion that both the site and the locality are more eligible than any other that can be provided elsewhere in the metropolis, one great advantage attending the actual situation being that it will be comparatively easy to extend the building, at any future time, as circumstances may require, by appropriating to it the large uncovered space in the rear, at the west end of it. Nor is it the least advantage of all, that very considerable enlargement, as far as purpose is concerned, may be effected at once without other change than that of removing the Royal Academy; and, after the hint in the Report to that effect, such removal may be looked forward to as quite certain. It seems also to be decided that the front of the Gallery shall be not only altered but heightened. So far, however, is it from correct that that work of improvement has been confided to Mr. Barry or any other individual, that the Committee conclude their Report by expressly saying: "For the completion of such a work, which ought to be not unworthy of the age, the country, and its own destination, *they would gladly see the most eminent talent of the country invited to compete in designing an appropriate and enduring monument.*" This augurs well, since, be done whatever may, we may look for a competition, and for the production of various ideas, if not for display of talent in all of them. What we would here suggest is, first, that ample time should be allowed for the study of the subject; and secondly, that the designs should be exhibited to the public *previously* to any one of them being definitely fixed upon for execution by those who act as judges or umpires. That mode of proceeding would be quite new, but at the same time a most safe and satisfactory mode of proceeding—an improvement upon that adopted with regard to the Houses of Parliament, the designs for which were not exhibited until *after* the one now carried into execution had been fixed upon. As far as the interests of architecture are concerned, it would be gaining a very great point indeed, were pre-exhibition to become the rule on such occasions, because it would prevent the prejudice now excited in favour of some one particular design by the prejudgment of umpires or committees, who, before it is shown to the public, have already pronounced upon its superiority to all the others.

One alteration that may be expected for the front of the Gallery

is, that it will be brought considerably forward, perhaps nearly up to the palisading next to the foot-pavement, whereby the building would become very considerably enlarged in plan; for owing to its being insisted upon that the portico of St. Martin's church should come into view from Pall Mall East, Wilkins was obliged to set back some parts of the façade between thirty or forty feet. Owing to that caprice, the architect was fettered not only very arbitrarily and unnecessarily, but unjustly also, all the odium of the inadequacy of the building for the purpose falling upon him, although the unsatisfactoriness of the plan was, in a great measure, forced upon him by others. The difficulty now will be to enlarge the plan without disturbing, or disturbing as little as possible, what is already built, to do which will, in case of a competition for the work, exercise the ingenuity of architects in no ordinary degree. For saying on this occasion much more than seems required of us, we may very well stand excused, the matter itself being one of no small importance and interest—one on which public attention ought to be fixed ere the time for due consideration shall have passed away.

On first hearing that something was about to be done to the exterior of the Bank, with the view of giving it greater loftiness, we hoped that Mr. Cockerell had been instructed to reshape the centre of the south front, and there introduce an order upon a larger scale than that of the wings; and could he there have applied some of the ideas shown in his design for the west front of the Royal Exchange, the centre of the Bank, now the most unsatisfactory part in the whole edifice, would have been materially improved. As it is, very great improvement has been effected with very slight alterations, and those confined entirely to the upper part of the building. To the centre portion of the façade nothing more has been done than giving it a better and richer cornice, and adding a handsome balustrade, crowned with vases; yet even this slight change is one greatly for the better. In the wings, improvement shows itself more decidedly; there the attic has been raised several feet, and is made to form bold masses over the end pavilions of each wing, connected together with a balustrade, behind which the intermediate portion of the attic is set considerably back, whereby a most happy sort of variety is produced, together with play of lines and of light and shade. The advanced portions of the attic are admirably treated, and display some successful novelty. The window, for instance, which is introduced into each of these masses, and which is altogether so different from the usual character of windows so situated, produces an effect as pleasing as it is singular; and while it prevents that appearance of heaviness which might else have attended the increased height of the attic, the opening there serves to set off and render more apparent the solidity which prevails in the lower part of the edifice.

2. Churches.

We begin as usual with the annual official report (the twenty-eighth) of the Church Commissioners, from which we learn that thirty churches have been completed since their last return, making

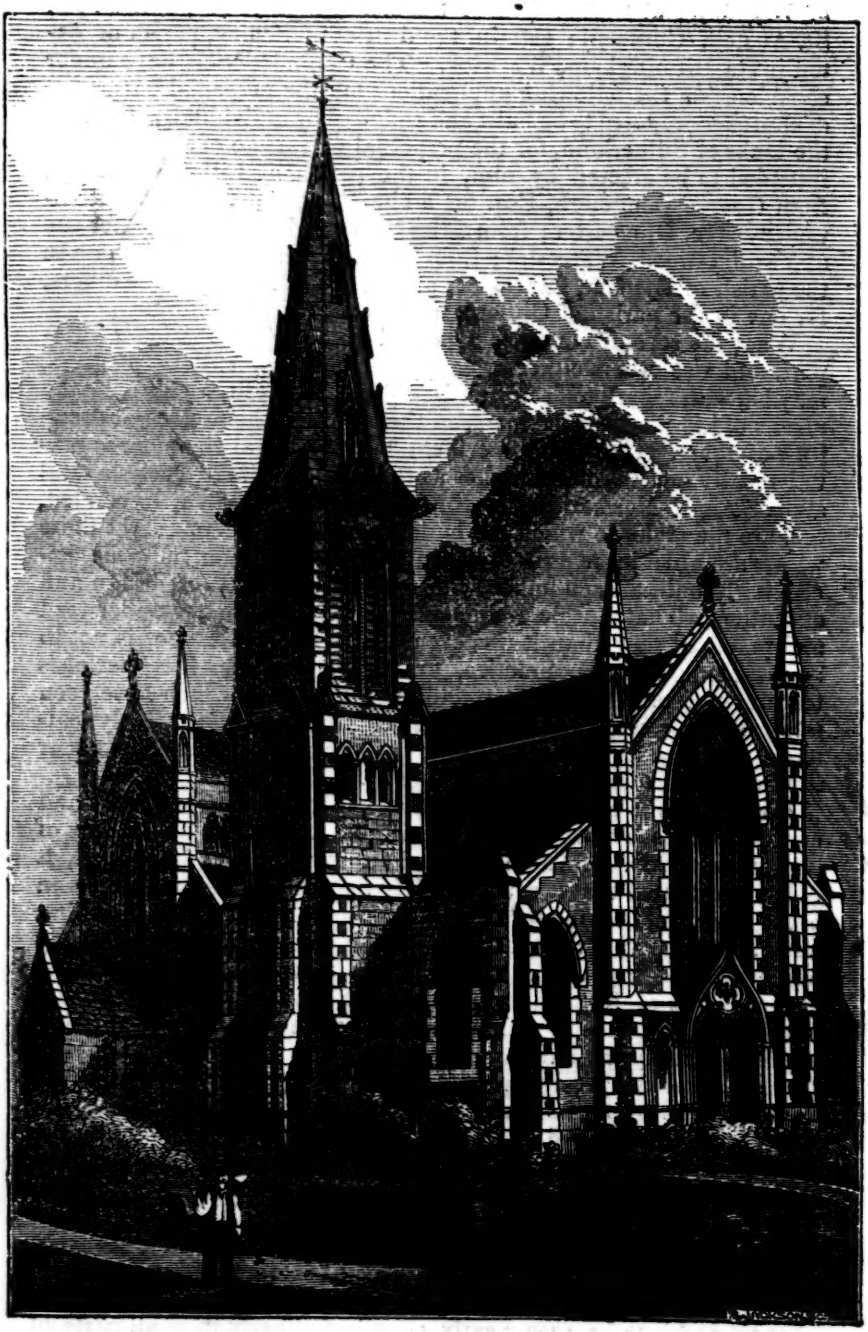
a total of 420 churches, affording accommodation for 464,008 persons, including 267,767 free seats. Twenty-five other churches, to which the Commissioners have contributed pecuniary aid from the funds at their disposal, are now in course of being erected at the following places: *Ashton-under-Lyne*, Hurst, Lancaster (Early English, with bell turret, 645 sittings, 495 free; began March 1, 1848). *Astbury*, Chester (ditto, ditto, 610 sittings, all free; began May 29, 1847). *Bury*, district of Ramsbottom, Lancaster (Gothic, 832 sittings, 365 free; began December, 1844). *Coventry, St. John*, Worcester (Gothic, 576 sittings, 456 free; began Feb. 10, 1848). *Duffield*, Derby (Early English, with bell turret, 516 sittings, all free; began June, 1847). *Earsdon*, Northumberland (Early English, 506 sittings, 426 free; began May 24, 1848). *Gloucester, St. George*, district of Two-mile Hill (Gothic, 511 sittings, 411 free; began June 1, 1847). *East Greenwich*, Kent (Gothic, with tower, 1333 sittings, 753 free; began June 28, 1847). *Halifax*, Mytholm Royd, York (Gothic, 480 sittings, all free; began Sept. 6, 1847). *Highbury*, Middlesex (Gothic, with tower and spire, 732 sittings, 229 free; began Sept. 1847). *Kingswinford*, Stafford (Gothic, with tower, 936 sittings, all free; began March 27, 1846). *Heaton Mersey*, Manchester, Lancaster (Gothic, 497 sittings, 248 free; began Nov. 1846). *Monkwearmouth*, Durham (Gothic, with bell turret, 548 sittings, 184 free; began June 21, 1846). *St. Pancras*, Camden-road Villas, Middlesex (Decorated of fourteenth century, with tower and spire, 1189 sittings, 670 free; began August, 1847). *St. Mary*, in district of Pembroke Dock, Pembroke (Gothic, with tower, 801 sittings, 651 free). *Pontefract*, York (Early English, with bell gable, 757 sittings, 561 free; began Sept. 1847). *Rochdale*, Lancaster (Early English, with tower and spire, 633 sittings, 246 free; began May 1, 1846). *Stockport*, district of Bredbury, Chester (Gothic, with tower, 862 sittings, 512 free; began Sept. 6, 1847). *Stockport*, district of St. Mark, Dukinfield, Chester (Gothic, 915 sittings, 815 free; began May 28, 1847). *Stoke-upon-Trent*, Stafford (Early Decorated, with bell turret, 718 sittings, 479 free; began Aug. 17, 1847). *Ditto*, district of Hope (Anglo-Norman, with bell turret, 650 sittings, 446 free; began Nov. 22, 1847). *Ditto*, district of Northwood (Early English, with bell turret, 500 sittings, all free; began Nov. 19, 1847). *Whalley*, district of Lamb, Lancaster (Gothic, 603 sittings, 448 free; began June 29, 1847). *Ditto*, district of St. James (Gothic, with tower and spire, 527 sittings, 377 free; began Aug. 1846). *Wolverhampton*, district of St. Mark, Stafford (Gothic, with tower and spire, 1066 sittings, 538 free; began April 11, 1848).

Plans have been approved of for twenty other churches, to be built at the following places:—Parishes of All Saints' and St. John's, Newcastle-upon-Tyne; Totworth, Somerset; Great Peter-street, Westminster; Ennismore-gardens, Knightsbridge; Portland-road, Marylebone; Coxhoe, Durham; Paddington in Pendleton, Lancaster; Chadderton, ditto; Burnley, in parish of Whalley, ditto; Minshull Vernon, Chester; district of St. Luke and district of St. Matthew, Wolverhampton; Ocker-hill, Stafford; district of Charles-

worth, Derby; district of St. Jude, Bristol; Clayton, in the parish of Bradford; district of Eldon, Sheffield; district of Charlestown, St. Austell, Cornwall; and in the district of Sedley, parish of Aston juxta Birmingham, Warwick. The Commissioners have under consideration the following applications for the perpetual patronage of churches proposed to be built and endowed by individuals, viz. from the Duke of Sutherland, for the perpetual patronage of a new church intended to be erected by him, in the parish of Lilleshall, Salop; from George Bengough, Esq. for a church at the Ridge, Wootton-under-Edge, Gloucester; from Miss Sarah and John Taylor, for one at Yardley-wood, Worcester; from Thomas Clifton, Esq. for one in the parish of Lytham, Lancaster; and from Mrs. Penoyre and others, for one in the parish of Clifford, in the county of Hereford.

What the several churches specified in the Commissioners' Report, and also others either recently completed, or still in progress, may be, with regard to design and architectural merit, we have not the means of judging, not having seen the buildings themselves, or drawings of them. One thing is evident, that mediæval character is now universally affected for churches as the only legitimate ecclesiastical style. Anglo-Norman, Early English, Early Decorated, Decorated, &c. are the styles to which the buildings answer by name; yet those which are alike in regard to technical denomination, may be exceedingly unlike each other with respect to quality of design and execution. That Gothic architecture is infinitely better understood and practised now than it was even but a few years ago, is not to be disputed; still the practice, greatly improved as it is, partakes too much of routine. The structures of this class, which have been lately either erected or restored, are so numerous and so widely scattered, as to render it impossible for us to do more than notice one or two according to our means of doing so.

Christ Church at *Highbury*, which has just been completed and consecrated, is a work highly creditable to the taste and ability of its architect, Mr. T. Allom. The building displays itself well, it being so situated that it can be closely approached and inspected on every side; and as unity of character and attention to finishing have been observed for the whole of the exterior, it is marked by an equality of merit that is rarer than it ought to be. The exterior, which is of Kentish rag, with Bath stone dressings, shows a cruciform arrangement, with a tower and spire within the re-entering angle formed by the nave and transept on the north side, so that it recedes from the west front. The spire has gabled and crocketted lucarnes rising from its base; and other lights of similar form, but very much smaller and plainer in its upper part. Internally the plan is equally novel and commodious, for in the centre, or at the intersection of the transept, it becomes an octagon of four wide and four narrower sides, with as many open arches, the smaller ones being on the diagonals of the plan. Besides producing pleasing perspective combinations from every point of view, this disposition allows the pulpit and reading-desk (placed against the pillars of the chancel arch), to be seen nearly equally distinctly from all parts of the church. Both pulpit and reading-desk, the former on the north

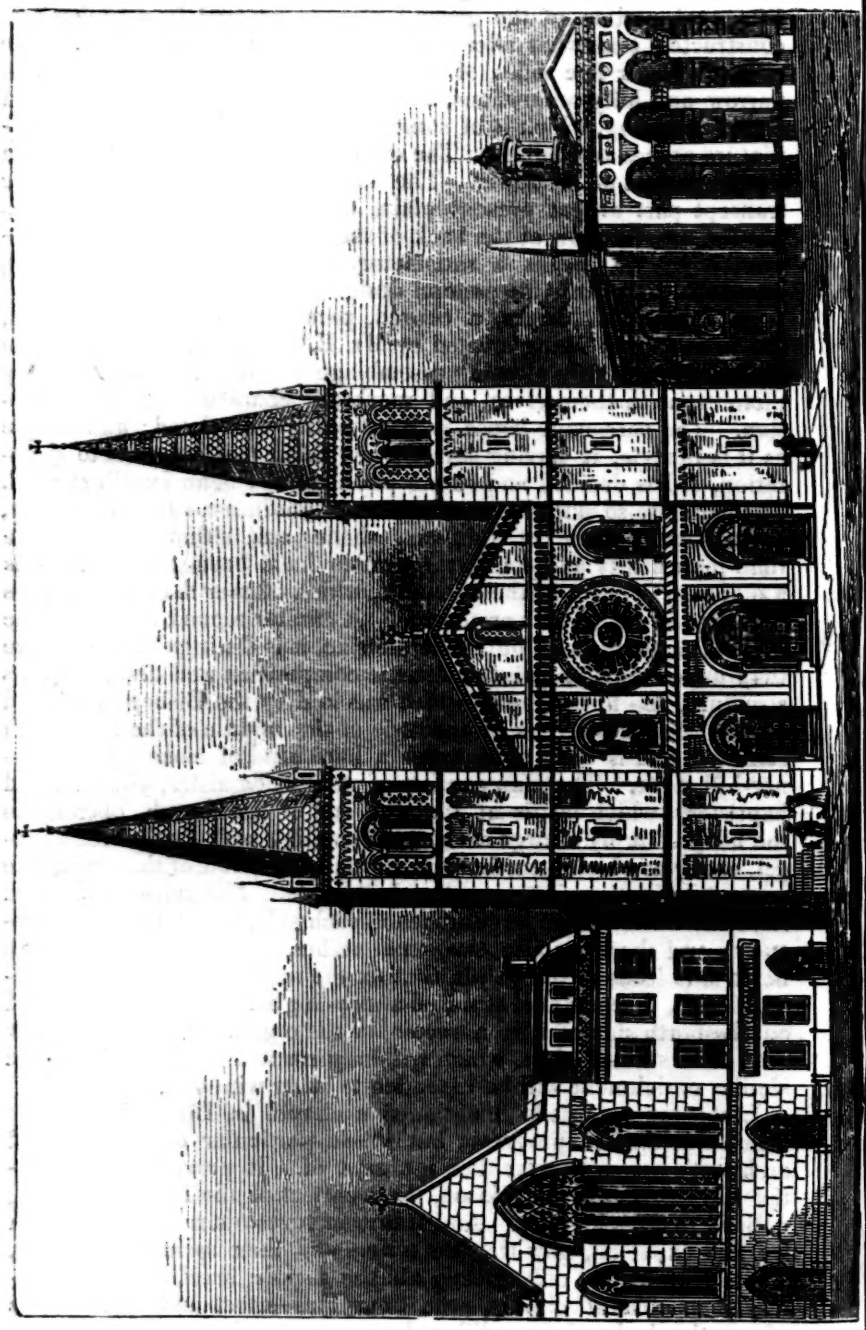


Christ Church, Highbury.

side of the chancel arch, are of stone, and hexagonal in plan. The octagonal portion of the ground plan is covered by a timber roof constructed somewhat after the manner of a groined vault. The chancel forms five sides of an octagon, with as many windows of narrow and lofty proportions, ornamented with stained glass; and the altar railing, which is of stone, resembles an open screen of miniature arches and pillars. The organ is within a screened recess in the lower part of the tower. The north and south windows of the transept part are at present plain, but will have painted glass, as has the west window at the back of the singing gallery, which, however, is by no means a satisfactory specimen of glass painting, especially as regards the general design and taste shown in it.

At Prestwood, Bucks, a church, parsonage-house, and schools, are in course of being erected by Mr. E. B. Lamb, and will eventually form a highly pleasing assemblage of buildings, unaffectedly picturesque in themselves, and markedly characteristic in expression. The parsonage-house is now nearly completed; and simple as it is in style, it having scarcely any thing that amounts to decoration, it has decided and strong physiognomy of an excellent kind. The parts are so skilfully combined as to produce a very happy play, both of outline and of light and shade; and although little more than mere utility and comfort appear to have been studied, there is a piquancy of effect in the ensemble, which oftener than not we miss in things of far greater pretension. A similar remark applies to the church, for though of but moderate size, it is distinguished by more than usual merit in point of artistic composition and design. This structure, the first stone of which was laid by the Bishop of Oxford on the 26th of July, is of the style of the middle of the fourteenth century; and is built of flint and a hard kind of stone called Denner-hill stone. The plan consists of nave, side aisles, chancel, and baptistery, which last is at the west end of the church, opening to the body of it by a large arch, corresponding with that of the chancel, and over which is carried up externally the gable of that end of the nave, terminating in a smaller bell-gable. The nave is divided from the aisles by two large arches on each side, supporting the clerestory; and there are also two small arches, of which the one on the north side leads to the pulpit, that on the opposite side to the reading-desk. The chancel is raised a step higher than the nave; and on the north side of it is a recess for the organ. The east window is to have stained glass, which will be presented to the church; and similar enrichment will be extended to other windows.

Last year we briefly mentioned a chapel in Bloomsbury-street which was then in progress; but whose particular destination and architect's name we were then ignorant of. It proves to be a Baptist Chapel, by Mr. J. Gibson, the architect of the Imperial Office, noticed in another page. And it further turns out much better than we first expected, now that the towers and their spires are erected. Those features not only greatly aid the façade itself, but tell pleasingly as distant objects, seen from Hart-street and other points where the body of the edifice does not come into view. What is now chiefly to be desired is, that as architectural character has been



Baptist Chapel in Bloomsbury-street.

confined to the front alone, the north side of the building could be screened out from the street. This chapel will accommodate altogether, on the floor and upper galleries, 1180 persons.

Mr. Pugin's new Roman Catholic Cathedral is at length so far advanced as to admit of its being consecrated, which ceremony was performed with great pomp and circumstance on the 4th of July. As yet, the interior generally—the nave and aisles, has a vacant and bare look, although in one respect it is more filled up than is desireable, as far as appearance is concerned, by the benches that occupy the nave. What also strikes as a defect in the building itself is, that there is not a sufficiently marked separation of the aisles and nave, owing to the arches between them being so wide and high, and the pillars so small in bulk, that the eye takes in the whole space at once. What, perhaps, causes the body of the church to appear more naked than it otherwise might do, is the profuse decoration and vivid colours bestowed on the chancel and the two lateral chapels. The former is separated from the nave by a double screen of small stone arches and pillars, over which is erected the rood-loft, with a crucifix and figures of the Virgin and St. John, which, besides being nearly of life size, are coloured in imitation of life or else of wax-work. The chancel or sanctuary, which is about forty feet in depth, and as many in height, is scenic enough, not to say theatric also, in effect. The high altar, which is of Caen stone, is covered in front with quatrefoil panels containing bas-reliefs; and is backed by a reredos of the same material, and forming a series of canopied niches, viz. ten small ones containing figures of angels, and a large one at each end, with the statues of St. Peter and St. Paul. Immediately over this reredos is the large east window of nine lights, with a complexity of tracery in its head; and the whole of it filled in with brilliant painted glass, presented by the Earl of Shrewsbury. The other windows of the chancel, and also those of the two chapels, are of painted glass; nor have ultramarine, vermilion, and gilding been spared for the other embellishments. Yet, notwithstanding the ostentatious display made in mere ornaments and accessories, the architecture itself is by no means of particularly rich character; on the contrary, rather affectedly plain. There is, besides, great inequality of taste shown: thus, while the stone pulpit is a really beautiful work of excellent design and execution, the organ loft and choristers' gallery strikes us as being decidedly ugly, and sadly marring the effect that would else attend that lofty and spacious recess over the entrance at the south end of the nave (for the church stands north and south), and within the tower, where the painted window, seen through the lofty open arch which frames in the gallery and recess, shows itself in very picturesque perspective. Externally, the tower itself is not yet carried up higher than the rest of the structure, but it is or was intended to be 180 feet high, with a spire of 140 feet more, making altogether an altitude of 320 feet.

Another Roman Catholic building of considerable importance for its size, is the Church of St. John, Salford, Manchester; which was opened in last August. This structure, the architects of which are

Messrs. Weightman and Hadfield of Sheffield, is cruciform in plan, and measures 200 feet from east to west, by 130 through the transept. It has also a tower and spire (at the intersection of the plan), whose united heights are 240 feet, that of the former being 110, of the other 130 feet. The particular style of Gothic chosen is that called the Decorated. The west front, which stands out boldly to the street, has four massive buttresses, crowned by as many open spire-shaped pinnacles. Over a deeply recessed and richly moulded portal, is the west window of four lights, with geometrical tracery in its head, and surmounted by a crocketted gable, with a niche containing a figure of the Virgin and Child. The gable of the building itself is terminated by a floriated cross. This façade is said to be copied from the west front of Howden Church, Yorkshire, an excellent example (a drawing of which is given in the new edition of Rickman, 1848); and certainly a description of the one will nearly serve for that of the other. The east gable is also crocketted and surmounted by a cross, but the window there is one of seven lights. The north side is greatly concealed by neighbouring houses, but the south one is exposed, it having a large open space before it, forming a cemetery ground. The end of the transept on that side has a deeply moulded doorway, and over it a four-light window. The spire has four hexagonal turrets with crocketted pinnacles; and four stages of lucarnes or spire lights. Partly in consequence of there being a triforium, the interior partakes very much of cathedral character, which Mr. Pugin's cathedral, just described, certainly does not. The following are the principal internal dimensions: nave, 83ft. 6in. by 21ft. 9in.; aisles, 83ft. 6in. by 13ft. 6in.; transept, 13ft. 6in. wide; chancel, 33ft. by 18ft.

3. Buildings connected with Education, Science, &c.

Among the buildings which were not then sufficiently advanced to enable us to speak of them last year, is the Polytechnic Institute, in Regent-street. The new front (at present left temporarily in an unfinished state) is double the extent of the original one, and has consequently gained greatly in importance as an architectural object. Although quite unambitious and plain in style, and remarkable for nothing that tells in description, the new façade is remarkable for quiet repose and breadth, owing to the fewness of the apertures and the space between them. There are two upper stories of six windows on a floor; those of the first floor with entablatures and pediments, the others of rather more than mezzanine proportions. The number of the windows being an even one, a pier falls in the centre of the front, which is so far convenient, or made so to appear, as a statue is placed there over the cornice, and it contributes very much to effect, just serving to give some degree of piquancy to the outline without destroying repose. At present there is but one porch (under the second window from the north end, where it was in the centre of the first front), but a corresponding one will of course be erected at the south end.

To what we said in our last volume respecting the Museum of

Economic Geology, in Piccadilly, we may now add that the exterior is finished, and both fronts make a very handsome appearance. It would perhaps have been better had they changed situations, and the entrance one been put at the Piccadilly end of the building, that being by far the more public, and also a much wider street than the other. What led to turning the rear towards Piccadilly, when the same plan would have come in just as well the other way, we can hardly conjecture: perhaps it was thought that that elevation has more of novelty in it than the other, and so indeed it has,—at least is more novel here, for the idea of the ground floor may be traced to a similarly designed arcade in one of the courts of the Doge's Palace at Venice. If we do not exactly prefer the Jermyn-street elevation in itself, we should prefer it for Piccadilly; and its imposing doorway is quite as great a rarity in architectural design among us, as is what most of all strikes in the character of the other front; for none of our buildings, however rich they may be in other respects, affect majestic portals. In the interior, the principal apartment or "museum," to which there is an ascent of nine steps from the level of the entrance in Jermyn-street, is 95 by 55 feet, and 32 high to the springing of the elliptical roof or ceiling, through which it is lighted both through the coving along its whole extent, and through large glazed panels or compartments along the centre of the ceiling. On each of the two sides of the room are two projecting galleries, supported by cantilevers, and affording access to upper tiers of glazed cases filled with specimens. The floor of this apartment is partly occupied by an opening, with a balustrade around it, for the admission of light to another exhibition hall in the basement, where the larger and heavier geological specimens are deposited. There is also a theatre, 55 feet in diameter, which derives its light from the "great room," through what may be called a glass ceiling. The library is 23 feet by 33, and 21½ high; and at the north and south ends of the building are "model rooms," on the level of, and opening the galleries of the great hall. The cost of the edifice, which is highly creditable to its architect, Mr. James Pennethorne, is said to be £30,000.

On first learning that it was in contemplation to provide some additional buildings for the London University College in Gower-street, we hoped that it was intended to complete Wilkins' edifice, by erecting the wings to it, according to the original design; for it assuredly is to be regretted that such a structure should remain in its present disconsolate-looking unfinished state, when the completion of it in conformity with its architect's idea would produce so fine an ensemble. The University Hall, however, the first stone of which was laid on the 20th July, is quite a distinct building, differently situated, although at no great distance, its front being in the centre of the west side of Gordon-square; and also quite different in character, it being of Tudor-Elizabethan style, in red brick and stone. It is designed by Mr. T. L. Donaldson, the Professor of Architecture at the College, and has a front about 100 feet in length, the principal feature of which is the centre compartment, where there is an arched gateway below, carried up two stories, and over that an oriel occupying the

two next stories; on each side of the centre there are only two windows on a floor, one of them of two, the other of four lights. All the details appear to be of a very homely sort, and somewhat meagre. As the ends are merely bare and blank brick walls, it is intended either to add to the building at some future time, or to bring houses close up to it. After all, though its name seems to connect it with the University College, it is quite a separate institution, the building being erected by the Unitarian body as the chief metropolitan seminary for students to be educated for their ministry; and accommodation for about thirty will be provided in the first instance.

At Canterbury, an interesting and important work has been completed, namely, the new St. Augustine's College, which was consecrated June 29th. In 1844, the site and remaining buildings of the old Monastery, which had been degraded to a variety of mean uses, were purchased by Mr. Beresford Hope, M.P., for the purpose of erecting a Protestant Missionary College, and at the end of the same year the new works were commenced by the architect, Mr. W. Butterfield. The old gateway, a particularly fine and celebrated example of its kind, has been ably restored, and restored also to its original purpose, it forming the entrance into the quadrangle, around which the several buildings are arranged. This court, whose appearance is rendered more striking by a stone conduit in the centre, and by a raised terrace along its north and east sides, has on the first-mentioned side an enclosed cloister or ambulatory, extending 150 feet, over which are students' dormitories. On the east is the library, with six lofty pointed windows of two lights on each side, and another at one end: the apartment beneath it is appropriated to the purpose of a museum. On the opposite or west side is, first, the dining-hall, next the gateway; then the chapel, and lodgings for the Warden and five Fellows. The dining-hall has an open oak roof, a raised dais at its south end, and an ample fireplace. The chapel has an open oak screen across its west end, and sixty-four stalls arranged in two rows of sixteen on each side. It is paved with ornamental tiles, and the windows are filled with stained glass. The exterior of the museum and library are of undressed Kentish rag, with Caen stone for the ornamental members. The other buildings are of flint and Caen stone; and the roofs are entirely of stone tiles, and the ridges decorated with crest-tiles. In addition to what was collected by subscription, Mr. Hope is said to have expended altogether about £30,000 on this college, which will remain an honourable monument of his noble munificence.

For one class of buildings,—namely, parish schools, hospitals, workhouses, asylums, &c.—Tudor architecture in red brick and stone, with mullioned windows and gables, seems to be now pretty generally adopted as a sort of costume for them, perhaps partly because such mode carries with it a certain appropriate expression of homeliness, and partly because, however simply treated, its mere forms, materials, and their contrast of colour, produce something amounting to character. The front of the schools attached to Dr. Cumming's Scotch Church, in Crown-court, Drury-lane (which building itself has been considerably enlarged), is of this description. It stands in

Russell-street, opposite the colonnade on the north side of Drury-lane Theatre, and has below an arched entrance, with a narrow window on each side of it, and a projecting oriel above, between two similar windows.

The new Free Church College on the Mound at Edinburgh is not yet completed, but is sufficiently far advanced to show that it will turn out a most insipid affair; which is all the more to be regretted because it is so situated as to be a very conspicuous object. But if so far that is rather an unlucky one for it than the reverse; it is in one respect eminently favourable, on account of the relative position of other structures; because in a view of it from one part of George-street, this college comes in a line with and between the Royal Institution and the Assembly Hall so as to be seen rising immediately over the first-mentioned building, while the spire of the other is seen rising over the college in such manner as to appear to belong to it, so that its outline becomes diversified, and a feature is given to it, which in reality it does not possess.

About nine miles from Perth is another structure that will deserve to be visited by the tourist, although it lies in what is at present a very unfrequented route and out of railway reach—we mean the new episcopal seminary, Trinity College, in the glen that takes its name (Glenalmond), from the river Almond, which falls into the Tay near Perth. The buildings of this institution form a group arranged quadrangularly, with the chapel at the south-east angle, and that range which, as it contains the gateway tower, may be considered the principal front, extending along the entire west side of the general plan. The architect is Mr. J. Henderson, whose chapel of St. Columba at Edinburgh was referred to in our last volume as a clever modern specimen of Gothic architecture. Of this other work of his, the greater portion is equally satisfactory and characteristic, being treated according to that particular mode of the Perpendicular style which is distinguished by the name of collegiate. For the chapel, however, that style is departed from very violently, therefore injudiciously, for instead of looking like a college chapel, it resembles a small church, with a tower and spire, in what is called the Early English style; consequently although immediately connected with the other buildings it does not seem to belong to them. No doubt variety and contrast are thus secured, but the variety partakes of displeasing discrepancy, and the contrast of contradiction, when, merely for the sake of variety, the widely distinct modes of different periods of the art are applied quite arbitrarily and unnecessarily. Moreover, expression becomes falsified, for we are reconciled to such incongruity only by supposing that the works have been erected from time to time under different architects. The college, we should observe, is not yet completed, and as we understand the chapel is one of the portions that remain to be erected, it is to be hoped that Mr. Henderson will reconsider the matter, and now bring what, as an important feature, ought to be a perfectly satisfactory one, into keeping, as to style, with the rest.

The 'Sixteenth Report of the Board of Public Works, Ireland,' gives the following list of buildings which are either now in progress

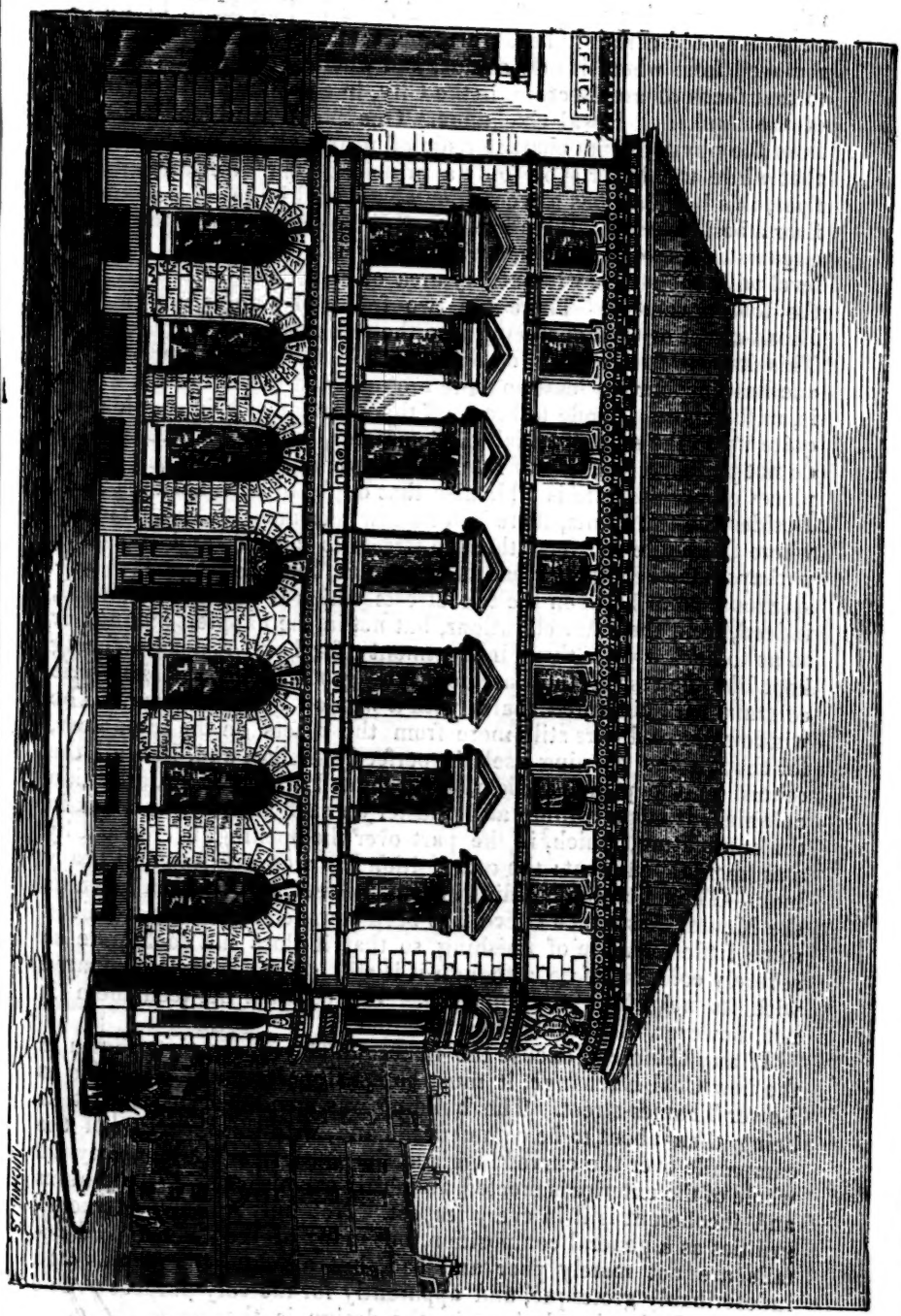
or about to be commenced, with the names of the respective architects:—

*St. Patrick's College,	Maynooth.....	A. W. Pugin.
*Queen's College,	Cork.....	Sir Thos. Deane.
*————	Galway.....	J. B. Keane.
*————	Belfast.....	Chas. Lanyon.
*Lunatic Asylum,	Cork.....	W. Atkins.
————	Sligo.....	Butler.
————	Killarney.....	Sir Thos. Deane.
————	Mullingar	J. Mulvany.
————	Omagh.....	Farrell.
————	Ballinasloe	Kempster.
————	Dublin	Murray.
*Criminal ditto...	Ditto.....	J. Owen.
New Convict Depôt,	Dundrum	Ditto.

Of those marked with an asterisk the plans and elevations are published in the Report, and as regards design, the poorest of them all is that at Maynooth, which looks far more like a workhouse than a college. It is not only poverty-stricken, but in many respects uncouth in style, or rather devoid of style. Surely Mr. Pugin must at the time have quite forgotten his own "contrasts," for many will now be tempted to illustrate that work of his by inserting the elevation of his own building at Maynooth as a specimen of modern mediæval architecture. The most satisfactory of all the designs is that of the Queen's College at Belfast, which answers better to the idea of the collegiate style than any of the others. The principal front, which is 300 feet in length, is a uniform composition, consisting of two wings projecting about 30 feet before the general line, and in the intermediate part the centre projects out also, although not in the same degree, and so as to form three breaks, the centre one of which is carried up as a tower to the height of about 80 feet, and has a handsome embattled oriel of two stories over the gateway. There is also a similar oriel in each wing, but differing from the one just mentioned, inasmuch as they rise directly from the ground. The other features are all in good and corresponding taste, and the only fault to be alleged against the design is, that it is rather too much crowded up, for fewer compartments and windows on a floor would have better suited the space afforded it.

4. Buildings for Public Purposes.

Almost within sight of the Bank, in London, is the new Imperial Assurance Office, which turns out to be a very satisfactory piece of architecture, and not a little creditable to its author, Mr. J. Gibson. It cannot, indeed, be said of it that it is marked by any novel ideas, but it is in good taste, consistently finished up, and carefully executed in Portland stone. It is an astylar composition of Palazzo character, consisting of a ground floor and two upper floors, with enriched string courses, a deep cornicione, and an eaves roof, covered with Italian tiles laid in ridges. In its general physiognomy, there-



Imperial Assurance Office

fore, it might pass for a clubhouse; and, as far as exterior goes, it might rank with some of the best of those in Pall Mall, to which street it would certainly be an ornament; not that we wish it to be removed from where it now stands, and where it contributes greatly to that focus of architecture in the City, in the immediate environs of the Bank and Royal Exchange. One point in which it differs from the physiognomy characteristic of nearly all the clubhouses is, that while the latter show only a principal floor over the ground floor, this building has a second, or what would be called a chamber floor: besides which, there is another difference forced upon it by circumstances of situation, owing to which the ground floor is level with the street, without any area or balustrade between it and the foot pavement. There are two fronts of similar design, the Broad-street or west one being also the principal and entrance one. This has seven openings on a floor, while the Threadneedle-street one has but four; at least no more are included in the design, which is, unfortunately, made to break off there instead of being prolonged quite up to the adjacent Hall of Commerce, but for what reason we do not perceive, and at any rate the intervening bit between the two pieces of architecture is a blemish that ought to have been avoided. Besides the two fronts, there is a narrow intermediate compartment where the angle between the two streets is cut off; and it would, perhaps have been better had the entrance been placed at that conspicuous point between the two streets which is now distinguished, indeed, from the other elevations, but not in the happiest manner, or so as to accord with them in treatment; for here, instead of being kept like the rest of the basement, the ground floor has two Doric columns with cinctured shafts, with a window between them. The window above differs still more from the others on the same floor, for though the opening itself is perfectly similar, and, like all the others on the principal floor, is decorated with small Corinthian columns, it has a column and pilaster on each side, with a break in the entablature, which, in the part over the opening, is crowned by a segmental pediment: the composition has a crowded-up and heavy look.—The adjoining building in Broad-street, having been taken as the Mentor Assurance Office, has been completed, and has received some little increase of finishing, so that it does not look quite so severely cold as before, although it is still severe in style compared with its neighbour the Imperial. The contrast between them is not, however, disadvantageous to either.

If any thing can excuse the unaccountably queer taste shown in the new Coal Exchange, it must be its situation in such a defile as Lower Thames-street. The building was mentioned in our last as being then about to be commenced, and, with the exception of the campanile over the curved loggia at the south-west angle, nearly the whole of the exterior is erected, and fairly astonishes us, so anomalous and incoherent is it in every respect. Not only is it full of incongruities as a general composition, but many of the features and details are not merely poor and bad, but absolutely barbarous and indescribably grotesque, and apparently for the very purpose. One of the unlucky singularities in the design is, that while the other

windows are comparatively plain, those of the third floor—for there are no fewer than three upper stories, which occasions a very lodging-house look—have pediments which come immediately beneath the general cornice; and, instead of resting upon string course or dado, or being left without any thing beneath them, there is beneath each of them a nondescript something, which is meant, perhaps, to belong to them, and also to serve as ornament over the second floor windows. This must suffice, by way of specimen of the deformities here heaped together, it being quite impossible to explain forms and fancies so *outré* that architectural language has no terms for them. Some time hence it will be difficult to believe that this building and the Imperial Assurance were both erected in the same year. From what can be seen of it—it being at present nearly concealed by hoarding—the ground floor is of very much better design than the rest. Although quite as singular, its singularity is of a far less offensive kind. There is even something good in the idea, capable of being improved upon. Yet let that part and the campanile be ever so satisfactory in themselves, the building as a whole will be eminently the reverse.

For the London Fever Hospital, in the Liverpool-road, Islington, the usual modern style has been followed. This building, the first stone of which was laid June 29th, by the Earl of Devon, is from the designs of Mr. C. Fowler, in favour of which those of Mr. Mocatta were set aside after they had been formally approved of and decided upon by the committee, solely, it would appear, through the influence of the president, Lord Devon. This circumstance has given rise to some scandal; and Mr. Mocatta has publicly signified his intention of laying the matter before the Institute of British Architects, in order that they may establish some regulation for the future in all similar cases. Whether the change that has been made is at all for the better as regards either internal accommodation or external appearance, and so far a justifiable one, we are unable to say, but in the latter respect the one adopted is, upon the whole, satisfactory. The front extends 230 feet, and is divided into three *corps de logis*, or masses of building, quite detached in their upper part, but connected together on the ground-floor, which is continued between them, but set a few feet backwarder. The centre and extreme divisions or wings are alike as to width (40 feet), and have three windows on a floor: but the former, distinguished by being somewhat loftier, having an upper mezzanine floor, and being crowned by a pediment; and it could be wished that no greater distinction had been aimed at, since what is meant for decoration rather deforms it. Had the upper-floor windows there been simply dressed like those in the wings, the whole would have been uniform and in much better taste; instead of which, those windows have no dressings at all, but are merely placed between plain capped pilasters that do not form an order belonging to the front, being stuck on to it for no other purpose than to support a sort of frieze on which is inscribed the name of the Hospital, though a sunk panel would on every account have been far preferable. Except for the strange and perverse taste thus shown, the whole would have

been sufficiently pleasing, for the general composition and the arrangement of the buildings are more than usually good and effective. This hospital is to be completed by the end of March, 1849, and is intended to receive two hundred patients, or eighty more than the former hospital near King's Cross.

The new Lying-in-Hospital in Endell-street, London, which, by the bye, is almost the only building which shows any progress being made towards filling-up that very unfinished line of new street from Long-acre, is also in that species of the Tudor style, and a very fair sample of it. And we meet with the same style again in the baths and washing-houses in Orange-street, Leicester-square, which, however, as far as can be judged in the present state of the building, will partake more of Elizabethan ornateness of design. The front, which exhibits a ground floor and upper one, has three arched entrances, viz., one at each end, and another in the centre break. These doorways are wholly of stone, with Doric pilasters and entablatures, in the Anglo-Italian style of the 16th century. On the upper floor there are three large square-headed windows on each side of the centre break, making, together with the one there, seven windows in the length of the front; all of them are divided by mullions into four lights, and are besides double transomed. The elevation finishes above in a series of small ornamental gables (some angular, others curved), corresponding in number and situation with the three windows on either side of the centre. Another and novel feature, although it does not belong to the front, it being in the rear of it, is a large chimney or funnel, which shows as a slender square tower rising up from the building, and may be seen from Leicester-square. We are informed that the architect's name is Baly.

At Birmingham a building is about to be erected for the Odd Fellows' Institution, the one now occupied by them being required to be taken down to afford room for the new station of the North-Western Railway. The new Institution will be in Temple-street, where it will have a frontage of forty-five feet by a depth of ninety-four. The design is by Mr. G. Alexander; and the elevation, which is in what may be called the Veneto-Italian style, exhibits two orders (Doric and Ionic, in pilasters), and an attic. Each order is so disposed as to form three wide intercolumns, and two narrower intermediate ones. The first-mentioned of these are occupied by Venetian windows set within arches; while in the others there are small windows in the lower order, making one on each side of the doorway; and niches of corresponding proportions in the Ionic order. A wide anta-pilaster finishes the angles of the building on each floor. The upper line of the elevation is varied by a small segmental pediment placed over the middle compartment of the attic. The principal room, or Great Hall, is on the uppermost floor of the building, and occupies the whole of it, being ninety feet by forty, and about twenty-five high. Among the other apartments will be a library, reading-room, and committee-room.

The new offices of the Western Bank of Scotland, at Edinburgh, which have been in progress about two years and are not yet completed, stand at the south-west corner of Charlotte-square, and present

two adjacent fronts; the east or principal one being towards the Square, the other or south one facing Rose Street. The architect (Mr. Bryce, has here applied what is called the Italian *palazzo* style very successfully, and has produced a composition which, though simple in itself, is unusually ornate in all its features; wherefore it contrasts remarkably with the jejuneness of detail that characterizes somewhat disadvantageously so much of the modern architecture of this our Northern capital; and it may, perhaps, help to create a taste there for richer and more finished-up design. One merit of Mr. Bryce's building is that style is not affected for merely one side and then dropped, but the whole is all of a piece, there being in fact no other difference between the two elevations than that that towards the Square has seven windows on a floor, the other only three; excepting indeed that the latter has not, of course, the entrance porch, which is here made to form what is a very unusual feature in the *palazzo* style, it being a small projecting *distyle* Ionic portico, but with four columns placed in pairs, and has moreover a pediment and roof abutting against the dado of the upper floor, beneath the centre window. The ground floor is also treated in an unusual manner, for instead of being either rusticated, having merely dressed windows of similar but plainer character than upper ones, the windows are set within archivolted and console-keyed arches, whose imposts are continued as dressings over the square-headed openings beneath, while the tympanum of each arch is ornamented as an escallop-shell. Besides which, although there is no complete order with its entablature, the piers are made to assume the form of wide antæ, with bases and caps. So far the usual mode is reversed, the ground floor being marked if not by greater richness by greater variety than the rest, which last, considered merely as a composition, is not at all remarkable, it consisting merely of two series of windows, the upper or mezzanine ones resting upon a moulded string course; and over them the elevation terminates with a richly sculptured frieze of foliages, and a bold modillioned cornicione. The principal floor windows have their full complement of decoration; and their pediments, which are alternately angular and segmental, are filled in with ornament. Some sculpture is also introduced into the pediment of the porch. Altogether, ornateness has been extended to every part, with one exception, which amounts almost to want of finish, there being no quoins at the angles of the fronts, the reason for which may be that there is hardly room for them; and indeed a little more frontage would have been an improvement, for now the windows are put rather more closely together than is exactly desirable. Nevertheless, there is so much to commend and admire, that even London might take a lesson from this specimen of Edinburgh taste.

If we are not misinformed, Mr. Bryce is also the architect who has been employed in enlarging the Edinburgh and Glasgow Bank at the corner of George Street and Hanover Street, whose front towards the latter street has been lengthened from five to nine windows on a floor; in doing which he has been obliged to adhere to the original design, which shows a Corinthian order, including two stories, raised upon a plain basement or ground floor.

Another Bank recently completed from the designs of the same architect, is the Central Bank of Scotland in St. John Street, at Perth, which, although not at all to be compared with the first-mentioned one at Edinburgh, is a striking piece of architecture in a city which stands wofully in need of improvement and embellishment. The front of that Bank consists of a ground floor and two upper stories, of five windows each; in the former, which is of lofty proportions, are two large Doric doorways, and between them, three windows with dressings and cornices. The windows of the next floor, before which is carried a continuous projecting balustrade or balcony supported on trusses, are pedimented, and have Corinthian pilasters. In the upper floor, the windows are of nearly the same proportions, and though their dressings are comparatively plain, they have cornices. A block cornice and balustrade complete the elevation. Here there are quoins at the angles; and good architectural expression has been so far attended to, that the cornice and balustrade are returned at the ends where they show themselves above the adjoining houses. Of the interior it is enough to say that the public office is distinguished by a highly enriched panelled ceiling, which, however, contrasts too greatly with the plain walls, and seems to demand some embellishment for them also.

The Corn Exchange in the Green Market, in Edinburgh, is as yet but in a very early stage of progress, consequently it can be judged only from the design for it (by Mr. D. Cousin), which has been published in the Builder. It is in the Italian *palazzo* fashion, which seems to be now somewhat too indiscriminately applied. On the present occasion, it is not applied very judiciously, for the façade is made to assume quite the appearance of a *palazzo* or private residence, or else a clubhouse, although for such a building as a Corn Exchange some distinctly-marked and appropriate character might have been easily obtained. Bridgewater House, for instance, looks to the full as much like a Corn Exchange. Even considered, too, as a mere design, without regard to purpose, it is not altogether in the very best taste. Although the composition is *astylar*, a full entablature, or what seems to be intended as such, is given to the building, apparently for no other purpose than that of piercing the architrave with mezzanine windows, the mouldings of the architrave breaking above and beneath them, so as to form dressings to them very fantastically.

To the other recent buildings of the kind in Scotland which have been mentioned, may be added, the National Bank Buildings, in Queen-street, Glasgow, the architects of which are Messrs. Gibson and M'Dougal. The façade has two orders, viz., a Roman Ionic and a Corinthian; and the large telling-room has a dome ornamented with stained glass.

5. Private Mansions and Club Houses.

We have this year to speak of one or two buildings in London of a class which has scarcely come under notice on any former occasion, namely, private mansions. The most important of them is the new Bridgewater House, erected by Mr. Barry for the Earl of Ellesmere,

a little to the south of Spencer House in the Green Park. The house, which is 142 feet from east to west, by 120 from north to south, stands quite detached, but exhibits only two fronts, viz., the south, which is also the entrance one, towards Cleveland-row, and the west or garden one facing the Park. Although the plan may remain the same, the exterior as now executed differs very materially from the first design, exhibited some years ago at the Royal Academy, according to which there was to have been a Corinthian order of three-quarter columns on a basement, and also a campanile on the north side, which unusual feature would certainly have marked out the building conspicuously as a distant object, in the view from Piccadilly and the Park; while the belvedere on its summit would have commanded a very extended prospect. That tower, however, has been dispensed with, as well as the columns, and the south and west elevations have been made astylar compositions, the former with nine windows on a floor, the other with seven. Thus, as in the two clubhouses by the same architect, character and embellishment are derived chiefly from *fenestration* alone. But there are differences of treatment between the two buildings alluded to and the present one, for here the ground floor is made to show itself as a distinct, rusticated basement—an idea probably retained from the first design. Another difference is, that instead of being brought down to the edge of the cornice, the roof is here concealed in the usual way by a balustraded parapet, with vases upon its pedestals, and ornamental chimney-shafts at the breaks and angles. Both elevations are nearly similar, except that the lesser or west one is divided into three compartments, and each of the extreme ones has a triple window both on the ground floor and the principal one, and on the chamber floor three openings similarly disposed, but dressed as separate windows. All the principal floor windows have segmental pediments, whose tympanums are filled in with arabesque foliage, and a shield with the cypher E.E.; and on the frieze of each window is a tablet bearing the motto "Sic Donec." These windows are in fact altogether of exceedingly rich yet chaste design, and are examples of that elaborate finish of detail for which Mr. Barry is celebrated. The windows of the upper floor being much smaller and comparatively plain, that division of the elevation has upright moulded panels introduced between the windows, whereby a certain expression of increasing decoration is given to the whole of the upper part of the building. For the usual entablature, a cantilever Doric cornice is substituted, whose metopes contain a small panel with a flower in it. The south front differs very little from the middle compartment of the other, except that it has nine windows instead of five, and there will be an entrance porch below. The plan is by no means so satisfactory as the fronts: it does not display any contrivance or study of effect, but consists merely of rooms of the ordinary form arranged around an open inner court, which is divided into two by the lower flight of the grand staircase being carried through it: and from the landing-place at top another flight of the same width (10½ feet) branches out right and left. Thus the staircase is, like that of the Reform Club, completely enclosed between two

walls the whole way up. At any rate there is nothing of that inordinate display made on first entering which frequently causes all that follows to seem a falling off. Here, there is merely a passage ten feet wide, leading into a moderate-sized vestibule, no loftier than the other ground-floor rooms, where, on the opposite entrance, the staircase presents itself. Most of the general living apartments are on the ground floor, there being only three state rooms on the principal floor, on the side towards the Park, and the picture gallery, while the rest of that floor is occupied by chambers and other private family rooms. The state dining-room, which is at the south-west angle, with three windows looking into Cleveland-row, and one at the west end, towards the Park, is 48 by 25 feet; next that, and in the centre of the west front, is the state drawing-room, 68 by 25 feet, divided into three compartments, by columns and pilasters at each end. To that succeeds a smaller drawing-room, about 25 feet square, which opens into the west end of the gallery. This last, which will undoubtedly prove the "lion" of the mansion, extends along the north side of the house, and is not only the most spacious, but by far the loftiest of all the apartments, occupying the height of two floors. It is lighted entirely from above, as a gallery of the kind invariably ought to be, not, however, by lantern lights in the ceiling, but by openings in the cove, and it is intended to illuminate it, when used of an evening, by burners placed externally. The room is divided into a body, and two loggias separated from it by columns; the former is 82 feet long by 32 feet wide, and as many high; but the extreme length, including the loggias, is 110 feet. Owing to those loggias not being so wide as the body of the gallery, the plan of the room acquires some degree of play, and the effect of contrast and expansion is produced. What could certainly be wished is, that a building so worthy of being studied for its elaborated details and tasteful execution, were conspicuously placed in some public situation, for Cleveland-row is not even a thoroughfare, so that the south front is quite withdrawn from public view, nor can the west one be seen very advantageously, all the lower portion being screened out by the garden and trees before it. Perhaps Spencer House would have obtained more notice than it has, as a piece of architecture, but for the disadvantage of situation.

Want of sufficient publicity of site cannot be complained of for Mr. Hope's new mansion at the corner of Down-street, Piccadilly, but its publicity is likely to obtain for it more censors than admirers. Common-place it is not, for it is a most singular design in every respect,—of studied uncouthness throughout. The windows, consisting of two openings put together beneath an entablature and heavy segmental pediment, are most amorphous compositions; and of such windows there are three on a floor towards both Down-street and Piccadilly, and a single window on a floor in the angle splayed off between the two fronts. Although the house itself is erected under the superintendence of Mr. Donaldson, the design is said to be by some foreign architect whose name has not transpired.

Very remarkable in a different way is the house No. 19, in Park-lane.

It is so both as being a private house in the latest Perpendicular Gothic style, and as being a most carefully executed and satisfactory imitation of it. The front is a very narrow one, not more, perhaps, than 20 feet in width, and has a lofty projecting oriel window, carried up two stories over the ground floor. The third floor has a large mullioned and transomed window of the same width, but not projecting; and in the roof are lofty lucarnes. The oriel is fully panelled throughout beneath both the lower windows, and the corbelling below is not only richly moulded, but one of the principal mouldings is covered with foliage; besides which, there are some sculptured figures on each side underneath it. All the ornamental work, and much of the rest is of Caen-stone. No expense seems to have been spared, either with respect to the front or interior, for the latter contains a spacious and lofty dining-room with an open timber roof. The architect is Mr. Moffatt, who seems to have met with a liberal and tasteful employer; yet, although such a house must evidently have been erected by its proprietor for his own residence, it was very lately upon sale.

While speaking of buildings of this class, we may mention a rather large and handsome mansion just erected in Charles-street, Berkeley-square. The front has five windows on a floor, and consists of a ground floor, with entrance porch in the centre, three upper floors, and an attic. The first floor windows, which are of unusually lofty proportions, are arched and architraved, and have bold capital-like imposts. Those of the next floor, before which are projecting balconies, have small Ionic columns and entablatures; and those of the third floor are architraved ones. Above these last comes a cornicione, which, however, does not produce the effect it might have done; for, instead of being returned at all, or even showing its profile, it is stopped at each end against a truss, which gives it a heavy and even clumsy look. The elevation is finished by an attic, with panelled pilasters between its windows.

The exterior of the Carlton Clubhouse remains just as it was shown by us last year, nothing further having been done towards carrying out Mr. Sydney Smirke's design for the entire façade; very probably, therefore, the work is now put off indefinitely, and the club will be satisfied for some time to come with the mere enlargement of their building, and the acquisition of a very spacious and handsome new coffee-room. That apartment extends the entire depth of the building, and has three windows at each end. It is formed into three divisions by Corinthian columns and pilasters of scagliola, in imitation of verde antico marble; and the centre division of the room is lighted from above through a domed skylight. The walls have been decorated in encaustic by Mr. Sang, as was shown, or rather intended to be shown, in a drawing in the last Exhibition; for owing to its being placed quite next the ceiling, nothing of the details, either architectural or pictorial, could be discerned.

The Army and Navy Clubhouse (whose coffee-room will be similar in its arrangement to that of the Carlton) has been carried up to above the ground-floor, but is not yet in such a state of forwardness as to enable us to judge of the design otherwise than from the published view

of it. One great difference from, and improvement upon, all the first designs, is that the frontage towards Pall Mall has been considerably extended to half as much again as what the original competitors were limited to for it; which being the case, they surely ought not, in justice, to have been excluded from the second competition, when one very great difficulty which they had to contend with had been removed. Nevertheless such was the case: nor among the six architects admitted to the second competition, were the authors of some of the best designs first sent in included. Without further commenting upon such mode of proceeding, we will consider the design now in course of execution: the idea is avowedly borrowed from Sansovino's Palazzo Cornaro at Venice; but it may rather be said to be a combination of that edifice and another by the same architect, viz., the Library of St. Mark, of which the new part of the Carlton Clubhouse is all but a fac-simile. The rusticated basement, comprising a ground floor and mezzanine, is, indeed, copied from the Cornaro, less judiciously, perhaps, than faithfully, the taste displayed in it being not of the very best kind. The upper part of the structure will bear very little resemblance to the original claimed for it, because while the latter has two orders, an Ionic and Corinthian, of very sober character, the Clubhouse has only one—a Corinthian, with coupled columns in the south or Pall Mall front, where there are six intercolumns, and with both coupled and single columns in the entrance front towards George-street, where there are nine intercolumns. This order is treated similarly to the upper one of St. Mark's Library, and its copy the Carlton, the entablature given to it being proportioned not to the columns, but to the elevation generally, by means of a most exaggerated frieze and cornice, so that coupled columns become almost necessary to support such a mass, and by being coupled, produce a corresponding degree of fulness below. Both frieze and cornice will also be of unusually rich character; the former, entirely sculptured with arabesque foliage, and figures at the angles and at intervals, so as to divide the frieze of each front into three compartments or lengths. The windows of the principal floor are all arched, and assume the character of arcades, which, with their dressings, fill up the intercolumns. According to the design, the whole will be crowned by a balustrade of such height, that operating as a scale for other parts, it must either reduce them by comparison, or strike as preposterous in itself. A balustrade nearly as high as a mezzanine floor, as is here the case, must be allowed to partake of absurdity. One unusual feature in clubhouse design is, the recessed entrance loggia in the centre of the east or George-street front, which is formed by three open arches (very similar in character to those in the Strand front of Somerset House) carried up through the mezzanine. Beyond this loggia is the vestibule and staircase, to the left of which is the morning-room (76 by 28 feet), occupying the whole length of the Pall Mall front; and on the right of the vestibule is the coffee-room, extending similarly from east to west, but somewhat longer and wider, it being 82 feet by 39. Judging from external appearance, those two very important rooms must be of rather too low proportions, there being but very

little space between their windows and the mezzanine ones over them. On the same floor, in the rear, are the visitors' coffee-room and the house dining-room, the first of which is 46 by 29 feet, the other 29 by 20. The mezzanine is occupied by baths and dressing-rooms, they being here put not beneath but over the ground-floor. On the upper floor are the evening-room (over the morning-room, and of the same dimensions), library, and writing-room. The plan is simple enough, and may be convenient enough, but it certainly is not marked by that skilful contrivance and well-studied display throughout the interior which distinguished some of the first rejected designs, in forming which the architects were compelled, by the difficulties of the site, to depart from usual, and therefore common-place arrangement.—Rather as being a clubhouse than as being particularly noticeable in itself, the new Guards' Clubhouse may just come in here for mention: it is on the opposite side of Pall Mall, immediately adjoining that of the "United University," and presents only a very narrow frontage towards the street, with but little attempt at design, yet what there is is satisfactory.

6. Railway Stations.

We redeem the promise we made last year by now giving some further account of the railway terminus in Court Square, Carlisle, which serves as the point of junction, or joint station of the Lancaster and Carlisle line to the south, and the Caledonia one to the north. The buildings, which are constructed externally of Prudhoe stone, are in the Tudor or latest Gothic style, with a frontage of about 400 feet, but broken into separate masses or ranges and lines of architecture. In the centre one is a spacious booking-office, having in front of it a projecting arcade of five open arches, with buttresses between them, surmounted by pinnacles; and a similar arch on the return at each end. Northwards from this, or to the right of the spectator standing before the building, extends a suite of rooms for official business; and over them are others for the use of what may be called the directorial staff of the Lancaster and Carlisle Company. On the left, or south of the centre, are two handsome refreshment rooms, with kitchen accommodation and waiting rooms. The first-mentioned rooms occupy the entire height of that portion of the building (which forms a distinct group, marked by several gables, lofty chimneys, and bay windows, variously disposed), and have open timber roofs, and oriels or bays, reminiscent of the character and arrangement of the dining-hall of olden time. The booking-hall is also roofed in a somewhat similar manner, and possesses a degree of loftiness well becoming the style here adopted. Great attention has likewise been given to the detail of the arrival-shed, which is pillared, arched, and roofed in iron. One marked feature of the exterior is a tower connected with the arcade above-mentioned, at its north end. This is square below, with buttresses at its angles, but becomes octagonal in its upper story (which has eight arched openings), the square being splayed off in the upper part of the story beneath the octagon so as to pass into the latter form. Altogether, the buildings of this

station are highly creditable to their architect, Mr. Tite, for they afford evidence of diligent and successful study. On the Caledonian line several station buildings of pleasing exterior have been erected, between Carlisle and Edinburgh; but at Edinburgh itself, owing to the untoward state of commercial and railway matters, the progress of the various railway buildings has been considerably checked. Hence the Caledonian Company's terminus in the Lothian Road consists at present chiefly of temporary constructions, while what is intended for the future permanent edifice is not above half-way advanced to completion. Nor has much been done in regard to other railway works in that city: in fact, those of the North British line have marked their progress chiefly by causing the demolition of the old Trinity College Church, a specimen of good Gothic of the 15th century, which Edinburgh could ill afford to spare. It is, indeed, intended to reconstruct the edifice upon some other site, with a view to which the stones have all been marked and numbered and carefully put away, so that they may be replaced precisely as they were originally; moreover, in order to ensure all possible fidelity, daguerreotype delineations were taken of the church; yet how far the structure will now be actually reproduced is somewhat doubtful, the Gothic style being not at all the forte of the Edinburgh architects. They are far more successful in other modes; in evidence of which may be cited the new Western Bank of Scotland.

We had hoped to be able to report the approaching completion of the large terminus, commenced at Perth last year by the Scottish Central Company for their conjoint use with the Midland, and Edinburgh, and Northern Railway Companies. This structure, which is expected to form the most extensive and commanding station in Scotland, is indeed in state of advancement, and even partially occupied, but only to the extent of such portions as are required by immediate necessity. Owing to the course of monetary affairs, much that is required for accommodation, and still more for decoration, has been deferred. Those limited portions of the works, however, which have been completed by Mr. Trotman, are most satisfactory; wherefore it is all the more to be hoped that the rest will now be diligently carried on without interruption.

Owing to the lateness of its reaching us, we are compelled to reserve for our next volume the account of the Central Railway Station at Newcastle, which is now in progress. Judging from the drawing kindly furnished us by Mr. J. Dobson, the architect, it will be a very superior structure of its kind, excellent both as to conception and character, and striking from its scale and extent.

7. Street Architecture.

Some degree of architectural improvement has crept into Eaton-square, Pimlico, London, at the west end of which are four newly-built houses adjoining the portico of the Proprietary School, all of similar design. Each front has a single riple window on every floor, or rather, three windows of the same width grouped together, and the first floor ones have Doric columns

between the openings, and a segmental pediment over the centre one. There are three stories besides the ground floor, and the elevation is finished by a cornicione.—In Dover-street, Piccadilly, on the site of the hotel which was burnt down a year or two ago, two private houses have been erected, forming one general façade in the Italian style, with dressings to all the windows. Had they been of more sober design, and less ostentatious, they would have had less of that shop-street appearance which now marks them.—At Knightsbridge, a line or range of shop-houses has been erected near Wilton-place. The general elevation is formed into a regular composition by the two end houses being made loftier than the others by the addition of an attic. There are three stories over the shop floor, and the windows of all of them have dressings.—The front of Messrs. Duppa and Collins, in Oxford-street, may also be pointed out as a rather superior thing of its kind, and showing more than attention to the proprieties of architectural appearance; for instead of presenting a continued surface of window, without any apparent support, the ground floor or shop division has windows wider, indeed, than those of the upper floors, but still distinct openings, with sufficient piers between them; and being arched segmentally, they carry with them the appearance of intelligible and satisfactory construction. The upper part of the front also exhibits some rather fanciful but not altogether unsuccessful attempts at freshness of design. Taken as a whole, it shows well—certainly quite eclipses the neighbouring College of Agricultural Chemistry, which it causes to look more puny and insignificant than ever.

The new building in the Temple on the east side of the garden at the extremity of the range called the Paper Buildings (rebuilt after the fire there a few years ago), is not particularly satisfactory in itself, and certainly looks out of place, it being of quite different character from what it is tacked on to, and with the range of chambers on the opposite side of the garden. It is of red brick and stone, in a style that, for want of a more precise term, may be called Tudor; although the overhanging oriels or turrets at some of the angles assimilate it rather to continental examples of that period. The architect is Mr. Sydney Smirke, who has here, as at the Carlton Clubhouse and on other occasions, shown himself to be no follower of his brother Sir Robert, who designed the rest of the buildings in the Temple Garden.

XVIII.—CHRONICLE OF OCCURRENCES.

From October 1847 *to November* 1848.

1847. Oct. 27. The cantons of the Sonderbund present to the Swiss Diet propositions for a pacific solution of their differences with the Federal government. The propositions were rejected by the Diet on the 29th, whereupon the deputies of the Sonderbund, having first presented to the Diet a solemn declaration defending the course pursued by the leagued cantons, left the Diet in a body, and immediately afterwards quitted Berne for their respective cantons. On the 29th, also, the legis-

lature of Neufchatel decided, by 73 to 12, that the troops of the canton should not march against the Sonderbund.

Nov. 2. Count Bresson, French ambassador at the Court of Madrid during the negotiations of the Spanish marriages in 1846, committed suicide by cutting his throat at Naples. He had presented his credentials as French ambassador to the King of Naples on the 31st ult.

4. The Swiss diet voted by a majority of 12 cantons and 2 half cantons, that the decree of July 20 (see Chronicle of last year) should be carried into execution by force of arms.

— At a Court of Directors held at the East India House, the Earl of Dalhousie was sworn in as Governor-general of India.

7. Count Mortier, peer of France, and French minister plenipotentiary at the Court of Turin, was with difficulty prevented from murdering two of his children and committing suicide while in a fit of insanity, brought on, it was said, by jealousy. He was conveyed by the Prefect of Police from the Hotel-Chatham, Paris, to a lunatic asylum.

8. The Piedmontese Gazette of this date publishes a convention between Pope Pius IX., the King of Sardinia, and the Dukes of Tuscany and Lucca, to form a commercial league.

9. In order to check the alarming increase of crime in some of the western and southern counties of Ireland, the Lord Lieutenant ordered that the police and military force should be increased, and that a vigilant system of patrolling should be kept up in all the disturbed districts.

12. The Council-general of the city of Paris adopted, by a majority of 25 to 10, a resolution to the effect, that an experience of sixteen years had disclosed serious imperfections in the electoral law of April 19, 1831, and "that government and the chambers should attend with solicitude to the revision of the law in the next legislative session."

13. A sanguinary action was fought under the walls of Friburg between the forces of the Sonderbund and the forces of the Federal Diet, commanded by General Dufour. The Federal troops had entered the canton on the 10th instant. On the morning of the 14th, the town capitulated, and was taken possession of in the name of the Diet.

15. The *Consulta di Stato* of the Roman States, consisting of its president, vice-president, and twenty-four provincial councillors, met for the first time in the Hall of the Throne in the Quirinal, where they were received by the Pope, who addressed them in a remarkable speech. After this ceremony, the deputies in twenty-four state carriages, escorted by the civic guards, and attended by the population of Rome and numerous deputations from the provinces, proceeded to St. Peter's; and after hearing mass repaired to the Hall of the Vatican appointed for their meetings.

— The Hungarian Diet opened, and the Archduke Stephen elected Palatine in room of his father.

17. The Count Bois-le-Comte, French Minister in Switzerland, withdrew from Berne.

23. In a letter of this date, signed J. Russell and Charles Wood, the authority granted to the Bank of England to suspend the operation of the restriction clauses of the Bank Act of 1844 was withdrawn.

24. The Federal army of the Swiss Diet under General Dufour entered Lucerne without resistance. There had been a severe action fought on the 23d at the village of Roth, where the Sonderbund forces under Gen. Salis-Soglio made a vigorous resistance, but was ultimately defeated, dispersed itself in every direction, and the principal leaders fled.

The leagued cantons soon after sent in their submission to the Diet. The King of Prussia, in a note to the Diet on the 26th, declares that he will consider the entrance of the Federal troops into the canton of Neufchatel as a *casus belli*.

28. Installation of the municipal council of Rome in the Capitol. On the 27th, the King of Sardinia signed the organic law establishing municipalities and provincial councils throughout his dominions.

Dec. 5. Murder of six Englishmen at a village near Canton by the Chinese. On the morning of the 21st, four of the murderers were executed in presence of the British authorities.

14. The Gazette of this day announces, that a congé d'élire had been issued to the Dean and Chapter of Hereford, to elect Dr. Hampden to the vacant see of Hereford. Against the doctor's elevation a Convocation of Oxford University had resolved, by 52 against 10, to petition both Houses of Parliament; 13 bishops and 485 laymen, including many peers and members of parliament, had severally protested in letters addressed to the prime minister.

15. Death of the venerable Mr. Justice Burton, one of the judges in the Irish Court of Queen's Bench, in his 90th year.

17. Death of the ex-Empress, the Archduchess Maria Louisa, widow of Napoleon, and Duchess of Parma and Piacenza.

— Dr. Merewether, Dean of Hereford, memorializes the Queen "to name and recommend some other person" than Dr. Hampden to be elected for the see of Hereford.

21. Parma, Modena, and Reggio occupied by Austrian troops. On the 23d, the Austrian troops which had occupied the *city* of Ferrara were withdrawn to the *castello* or *citadel*, agreeably to a convention between Pope Pius IX. and the Emperor.

22. The Arab chief Abd-el-Kader surrendered to the Duc d'Aumale at the camp of Nemours. The Emir and his suite embarked at Oran on the 25th for France, and landed at Toulon on the 28th. In the terms of his surrender the chief claimed to be permitted to retire to St. Jean d'Acre or Alexandria, but he was detained a prisoner in Fort Lamalgue at Toulon till the 29th of April, when he was transferred to Pau.

23. By proclamation of the Irish Lord Lieutenant of this date, the Crime and Outrage Act was declared to be in force in the whole of the counties of Limerick and Tipperary, and in parts of those of Clare, Waterford, King's County, Roscommon, Leitrim, Cavan, and Longford.

— A letter from the Earl of Ellesmere appeared about this time, in favour of strengthening the national defences.

25. During the past week, reform dinners, each attended by upwards of 1000 guests, were held in France at Chalon-sur-Saone, Grenoble, Roanne, and Vienne. The king's health was omitted from the list of toasts.

26. Death of the Earl of Harrowby in his 86th year.

— A reform banquet held at Rouen, attended by 1800 persons, including twenty deputies.

28. The Legislative Session of the French Chambers opened by King Louis Philippe. Her Majesty the Queen, Madame Adelaide, the Duchess of Orleans, and the other princesses, the Count de Paris, the Dukes de Nemours, de Joinville, and de Montpensier, were present.

— Dr. Hampden elected, by 14 votes against 2, to the see of Hereford by the Dean and Chapter of the Cathedral of Hereford. The Dean protested against the election on a matter of form.

29. The Duke de la Vittoria (Espartero) after a sojourn of nearly four years and a half, left London for Spain.

30. Death of Madame Adelaide, sister to King Louis Philippe, in her 72d year.

1848. Jan. 3. The Milanese, to vex the Austrian government, gave up smoking; on this day, the Austrian soldiers, supplied with cigars, smoked in parties through the streets of Milan; and being hissed, made an indiscriminate attack upon the citizens, of whom, between those killed on the spot and those who died of their wounds, eighty lost their lives.

8. During the past week, the leading newspapers frequently discussed the subject of national defences, and the Duke of Wellington's letter to Sir John Burgoyne on that subject was published in the *Morning Chronicle*.

— Confirmation of the Rev. J. P. Lee, as Bishop of Manchester, at St. James's, Piccadilly, by the Commissioners of the Archbishop of York.

11. Confirmation of Dr. Hampden, as Bishop-elect of Hereford, in Bow Church, Cheapside, by the Commissioners of the Archbishop of Canterbury. Proclamation summoning opposers being made, Mr. Townshend, a proctor, "appeared" to oppose the confirmation on the part of certain clergymen, and stated that he would "bring in a libel." This was overruled, as he had not been allowed to "appear." After long arguments from Drs. Addams, Harding, and Phillimore, on the right to appear, the Commissioners delivered judgment in succession, all deciding that the parties who attempted to appear had no right to do so. The confirmation then proceeded. During the proceedings, the church was densely crowded; and the feeling of the audience was loudly expressed against the form of calling opposers and then refusing to hear them.

12. Palermo and the great towns of Sicily in open insurrection against the King of Naples. In Palermo, which had been bombarded by the troops, after three days' fighting, the people proclaimed a provisional government, and insisted on having the constitution of 1812.

14. In the Westminster Court of Queen's Bench, Sir Fitzroy Kelly moved for a rule to show cause why a *mandamus* should not issue to the Archbishop of Canterbury, and to his Vicar-general, commanding them to permit and admit to appear, in a court holden therefor, certain reverend persons named, to oppose the confirmation of the election of Dr. Hampden. The rule was granted.

20. Death of Christian VIII. King of Denmark, Duke of Schleswig, Holstein, and Lauenburg. He was born Sept. 18, 1786. He was succeeded by Frederick VII. his son, born Oct. 6, 1808, who commenced his reign by granting a constitution to his states resembling that granted last year by the King of Prussia.

29. Her Majesty's ship Cormorant, returned about this date from the Oregon territory, announces the important fact, that Vancouver's Island abounds with excellent coal. This ship supplied herself with coal at 4*s*. a ton.

— A decree posted in Naples, granting a constitution modelled on the French charter of 1830. The struggle continued in Sicily, the people being every where victorious.

Feb. 1. In the Court of Queen's Bench, the four judges gave their opinions on the question, whether or not a *mandamus* should issue in the case of Dr. Hampden's confirmation. Mr. Justice Coleridge and Mr. Justice Patteson decided, that the *mandamus* should issue; Mr. J. Erle

and Lord Denman, that it should not issue. Accordingly, as in all cases of a similar kind, the rule was discharged.

7, A meeting of the "country party" took place at Lord Stanley's to receive the resignation of Lord G. Bentinck as leader of that party in the House of Commons.

8. A proclamation issued by the King of Sardinia, containing the basis of a constitution. The Sicilians obtained their constitution of 1812; the Prince-royal to be Viceroy of Sicily, and to reside at Palermo; and a Sicilian parliament to meet in Palermo. The Sicilian fortresses were delivered up to the Palermitans, and the King's troops returned to Naples. On the 11th, the Grand Duke of Tuscany granted a representative government to his states.

9. Serious riots occurred at Munich, arising out of the animosity borne by the students and people against the King's mistress, Lola Montez, who had been created Countess of Landsfeld in 1847. The King issued a proclamation closing the university for a year, which he was prevailed upon by the municipality to revoke. At last Lola, who had fought desperately and received rough usage in the struggle, was obliged on the 12th to leave Munich under an escort of police.

11. Death of Dr. Howley, Archbishop of Canterbury. He was born Feb. 12, 1765.

12. The ensemble of the address, in answer to the royal speech, was adopted in the French Chamber of Deputies by 241 against 3, the opposition having withdrawn in a body. The debate lasted nineteen days.

22. A reform banquet of the 12th arrondissement of Paris, fixed for this day, was denounced on the evening of the 21st, by the prefect of police, as illegal, and abandoned in a proclamation simultaneously issued by a committee of its promoters. In the evening the people assembled in great crowds, and tore down the police notices. The garrison was increased to 100,000 men. Articles of impeachment were brought by O. Barrot before the Chamber of Deputies against M. Guizot, the minister of foreign affairs, on whose official residence an attack was made during the day by the people; they were, however, driven off by the soldiers. On the 23rd the same universal movement continued, barricades were thrown up, cannon were fired, and blood flowed on both sides. Gen. Tiburce Sebastiani was killed; the 3d legion of the National Guard declared for reform, and fraternised with the insurgents, and its example was soon followed by the 2d legion. In the Chamber of Deputies, M. Guizot announced that the King had sent for Count Molé to form a ministry. The revolutionary tumult continued through the night; barricades were erected at the corner of every street, all the trees along the Boulevards being cut down to form the barriers. M. Thiers was sent for by the King, and undertook with O. Barrot the formation of a reform ministry. These concessions, however, came too late; the following morning (24th) the tumult swelled with increasing violence; the prisons were thrown open; the palace of the Tuileries, evacuated by the troops, was occupied by the people, who wrecked its contents; the throne was carried in procession through the streets, and smashed to pieces; the railway stations were seized, the rails torn up, and communication with Paris cut off. At two o'clock a proclamation, signed by Odillon Barrot, announced the abdication of the King in favour of the Count de Paris. The young Count, attended by his mother the Duchess d'Orleans and the Dukes of Nemours and Montpensier, appeared in the Chamber of Deputies, which was filled by 300 deputies, and great numbers of the national

guards and men of the people who had entered forcibly. On the announcement by M. Dupin of the King's abdication in favour of the young child, and the appointment of the Duchess of Orleans as Regent, a voice from the gallery called out, "It is too late." A scene of great confusion followed; and, amongst many other propositions, MM. Lamartine and Ledru Rollin insisted on the necessity of appointing a provisional government. The members of the royal family retired. M. Dupont de l'Eure was carried by the insurgents to the President's chair, and the names of the provisional government were read amidst loud cries of "Vive la Republique;" they were Dupont, Garnier Pagès, Arago, Marie, Ledru Rollin, Lamartine, and Crémieux. The assembly then adjourned to the Hotel de Ville to instal the provisional government, who at once issued a proclamation announcing the overthrow of the monarchy, and proposing a Democratic Republic as the form of government suited to the people of France. During the day, the troops of the line fraternised with the people; the King, and all the members of the royal family and his ministers fled. On the 26th, the Republic was proclaimed from the steps of the Hotel de Ville. The 27th (Sunday) was kept as a high festival; the provisional government reviewed the national guards.

29. A numerous meeting assembled at Guildhall, London, to oppose the income tax. Meetings of a similar character were held about this time all through England.

March 3. Arrival of the Ex-King Louis Philippe and his Queen at Newhaven. Several members of his family arrived some days before in London. They took up their residence at Claremont March 4.

— The Duc d'Aumale and the Prince de Joinville leave Algiers for Gibraltar.

4. A grand funeral procession in honour of the victims of the revolution of Feb. 22, 23, and 24, in Paris. A national assembly of 900 members to be elected by universal direct suffrage was summoned by the provisional government, who also by a decree placed the real and personal property of the ex-King and of his family under sequestration. The effect of the French revolution was causing the minor German states—Baden, Nassau, Würtemburg—to advance in the march of reform. The canton of Neufchatel declared itself independent of Prussia on the 29th ult.

— A violent movement occurred at Munich; the people captured the arsenal and demanded extension of reform. On the 6th the King yielded all their demands.

6. A numerous meeting assembled in Trafalgar-square for the ostensible purpose of opposing the income tax. The Commissioners of Police had proclaimed the meeting illegal under 57 Geo. III. c. 19; and Mr. Cochrane, the originator of the meeting, had taken some measures, too late however, to prevent it from assembling. The crowd, about 15,000 in number, disappointed and angry, became mischievous, and after rough play among themselves, they made the police, who endeavoured to disperse the meeting, retreat to Scotland-yard. They then tore up the wooden fence round Nelson's Pillar, and used the pieces as weapons. The police, largely reinforced, returned and attacked the mob at various points, and regained possession of the place, without however dispersing the crowd. Skirmishes continued till about eight o'clock, when a part of the mob marched down Pall Mall on their way to Buckingham Palace, breaking lamps and windows along their route. Alarmed at sight of the palace guard, they returned by Westminster to Trafalgar-square; several of the ringleaders were arrested, and by midnight quiet was restored. Next

day the disturbances were slightly renewed in Trafalgar-square, and in several parts of the city. About eighty persons were arrested, and order was restored before the evening.

13. A numerous meeting of Chartists was held on Kennington Common. Immense preparations were made to prevent an outbreak. With the exception of some frothy speeches from the Chartist leaders, and some outrages by a predacious London mob that hung on the outskirts of the meeting, the day passed off without the least violation of order.

— On this and the following day a revolution at Vienna, the results of which were—a constitutional and representative government, a free press, and the flight of Prince Metternich. The Hungarians obtained a separate ministry.

14. In a decree of this date, Pope Pius IX. grants a legislature, consisting of a senate and a chamber of deputies, chosen by qualified electors at the rate of one deputy for every 30,000 of the population.

15. The Bank of France ceases to pay in specie; numerous failures occur among the banks of Paris, and in the departments.

16. The Duke and Duchess of Montpensier left London *en route* for Spain.

— The Parisian national guards, to the number of 50,000, appeared at the Hotel de Ville, and requested to be allowed to retain their old officers, and to keep up the select companies, which request was refused by the provisional government. On the 17th, a popular assemblage, nearly 200,000 strong, was received at the Hotel de Ville, demanding, amongst other things, the removal of the troops from Paris. They were addressed by M. Ledru Rollin, M. Louis Blanc, and M. Lamartine, and then retired without the slightest disturbance. Since the revolution, 51 political clubs have been founded in Paris.

18. After a week of great commotion and some severe fighting at Berlin, the King of Prussia issues a remarkable decree, in which (and in a still more open manner in a proclamation published in the Prussian State Gazette on the 22nd inst.) he takes the lead as an agitator to promote the reconsolidation of the German empire, abolishes the censorship of the press, and subjects its offences to the ordinary tribunals. The people assembled in the Royal Square to testify their delight. A troop of dragoons arrived soon after, whose colonel, insulted by the crowd, lost his temper, and ordered his men to charge. The fighting then commenced, arms were seized, barricades erected, and the struggle continued during the remainder of the day and that night. Next morning a supplicatory appeal from the King to the people appeared, which being followed by a release of prisoners, the withdrawal of the troops, and the publication of the names of a new and popular ministry, had a tranquillizing effect. An amnesty was issued during the day.

— The King of Bavaria was obliged by his people, who were frantic at Lola Montez's return, to revoke her letters of naturalization, and to order her arrest if discovered. He soon after abdicated in favour of his son.

— An insurrection in Milan against the Austrians, which ended in the success of the people, the flight of the Viceroy and his troops. On the 19th, the Italian flag was hoisted in all the towns of North Italy.

— Birth of the Princess Louisa.

20. A meeting of confederated Young Irelanders was held at the North Wall, Dublin, to adopt an address to the French Republic. The meeting was addressed by Mr. John Mitchell, Mr. Thomas Francis Meagher, Mr. W. S. O'Brien, M.P., and others. A Government re-

porter was present. Next day informations were sworn against the three speakers named.

22. A tree of liberty was planted with great ceremony at Paris, which was witnessed by an immense cortège of the citizens, the national guard, and the guard mobile, in the Champ de Mars.

— The Prince and Princess de Joinville, the Duke and Duchess d'Aumale, landed at Dartmouth and proceeded to Claremont.

— In the *Prussian States' Gazette* of this date a proclamation of the King of Prussia appears, recommending the cordial union of German princes and people *under one guiding hand*, proposing *himself to be this guide*, and "fusing and dissolving" the name of "Prussia" into that of "Germany." On the same day the King wore the old German, instead of the Prussian, colours on his arms.

23. The King of Sardinia issues a proclamation to the "people of Lombardy and Venice," and openly espouses the cause of Italian regeneration against Austria. On the same day his troops crossed the frontier of Lombardy.

25. The duchies of Schleswig and Holstein revolt against the Danish Government. The King of Prussia had written to the Provisional Government promising to protect the duchies against violent measures. A few days after the Prussian troops entered Holstein. The King also published a proclamation authorizing the re-organization of the Grand Duchy of Posen.

26. Consecration of Dr. Hampden as bishop of Hereford in Lambeth Palace chapel.

— An attempt at revolution in Madrid successfully crushed.

27. The Prince of Prussia arrived in London.

30. The Frankfort Diet published a Federative Constitution.

April 3. The French 3 per cents. were this day at 35.50., the 5 per cents. at 54.50.; on the 3d of February they were respectively 74.60., 117.25.; on the 6th instant, they were respectively 32.25, and 50.25.

— Mr. W. S. O'Brien, M.P., Mr. R. O'Gorman, and Mr. T. F. Meagher, deputed to convey congratulatory addresses respectively from the people of Ireland, from the City of Dublin, and from the Manchester Irish, were received in Paris by M. Lamartine.

4. A convention, consisting of 51 Chartist delegates from various localities, commenced its sittings in the hall of the Literary Institution, John-street, Fitzroy-square, London. The meetings of the body were attended by two Government reporters.

5. A meeting of confederated Young Irelanders was held in Dublin, attended by 3000 persons; great preparation was made by the authorities in case of an outbreak: the confederates were purchasing arms; pikes were manufactured and openly sold in great numbers.

6. The Duke and Duchess of Montpensier arrived in Madrid.

10. Victory of the Danes over the Holsteiners and Germans near Flensborg. The Danes, after their victory, marched southwards and entered Schleswig.

— Indignant reply of the Duke of Sotomayor, Spanish minister of foreign affairs, to Mr. Bulwer's letter of advice of the 7th inst., enclosing Lord Palmerston's despatch of March 16.

— Great Chartist demonstration on Kennington-common. The numbers were estimated at about 25,000. It had been intended to march in procession to the House of Commons with the Charter petition; but the authorities having intimated that the procession would be prevented by

force if attempted, it was abandoned. Great preparations were made to guard against any mischief; the shops were shut in all the great thoroughfares; bodies of horse and foot police, assisted by masses of special constables, were posted at the approaches of the various bridges over the Thames; a large force of the regular troops was stationed out of sight in convenient spots; two regiments of the line were kept ready at Milbank Penitentiary; 1200 infantry at Deptford, and 30 pieces of heavy field ordnance were ready at the Tower, to be transported by hired steamers to any required point. The meeting was held, speeches delivered, and the whole affair passed off without the slightest commotion, except a few encounters between the pickpockets and the specials.

11. Great commotion in Posen between the Polish and German inhabitants; an army of 30,000 Poles armed with scythes was encamped this day near Schroda.

13. A meeting of 51 liberal members of parliament was held at 14, St. James's-square, at which resolutions were passed, appointing Mr. Hume chairman, Mr. Cobden deputy-chairman, and Sir Joshua Walmsley honorary secretary, of a new party (the Reform League), for the advance of Reform principles throughout Great Britain and Ireland.

— The Sicilian Parliament sitting at Palermo decreed—"1. Ferdinand Bourbon and his dynasty are for ever fallen from the throne of Sicily. 2. Sicily shall govern herself constitutionally, and call to the throne an Italian prince." The bombardment of Messina by the King's forces was going on with great violence.

18. Mr. Vans Agnew and Lieutenant Anderson, in company with Khan Singh, the newly appointed governor of Mooltan, reach the town of Mooltan, and are killed in a quarrel with the troops of the old governor, Dewan Moolraj. The new governor was wounded and taken prisoner.

20. An immense demonstration of military force in Paris, on the presentation of colours by the Provisional Government to the legions of the national guards. The members of the Government took their station at the Barrière de l'Etoile; 400,000 armed citizens filed past in a continuous stream from 8 a.m. till 10½ p.m.

— Prince Metternich arrived in London.

22. The Prussian army drove the Danes from their entrenched position in the peninsula of Eckerforde, took Schleswig and Flensborg. All the Prussian vessels in Danish ports had been seized.

26. In the Irish Court of Queen's Bench the Attorney-General entered a *nolle prosequi* on the indictment against Mr. J. Mitchell, editor of the *United Irishman*, and filed an *ex officio* against that gentleman. The same course was taken subsequently in the cases of Mr. O'Brien and Mr. Meagher.

— Desperate rioting during this and the two following days at Rouen and Limoges.

27. A decree of the Provisional Government of the French Republic abolishes slavery in all parts of the French empire and its dependencies.

— The coast of Schleswig-Holstein blockaded by the Danish fleet.

29. Deadly conflicts between the Poles and Prussians in Posen.

— A soirée was given in Limerick to the leaders of the confederate Young Irelanders. During the proceedings a violent attack was made on the meeting by the moral force Old Irelanders. The Government proclaimed the city of Limerick under the Crime and Outrage Act. The "Council of three Hundred" and "National Guard" were also proclaimed illegal.

May 4. The National Assembly of the French Republic was opened.

6. Another attempt at insurrection in Madrid quelled.

10. MM. Arago, Garnier-Pagès. Marie, Lamartine, Ledru Rollin, elected by the National Assembly of the French Republic as members of an Executive Commission of Government; the Provisional Government had resigned its powers to the Assembly on the 6th.

13. The Chartist Convention dissolved itself.

— Death of Lord Ashburton at Longleat; he was born in Oct. 1774.

15. The state trials commenced in the Irish Queen's Bench. In the cases of Mr. O'Brien and Mr. Meagher the juries could not agree to a verdict. Mr. Mitchell had been arrested on the 13th for felonious writings in the *United Irishman*, and committed to Newgate.

— An immense concourse of clubbists, in number about 50,000, paraded the Boulevards of Paris, and forced their way into the National Assembly. In the tumultuary sitting that followed, M. Barbès proposed "a fixed tax of a milliard on the rich to carry on war for Poland." The crowd subsequently left for the Hotel de Ville, and the Chamber was occupied by the national guards. General Courtais, by whose connivance the Assembly was invaded by the people, had his epaulettes torn off, his sword wrenched from him, and he was driven from the Hall as a traitor; M. Louis Blanc had his clothes torn, and was otherwise treated with great indignity. Meanwhile the crowd reached the Hotel de Ville under the leadership of Barbès, and proclaimed a Provisional Government. Ultimately, however, the national guards forced their way into the Hotel, and arrested Barbès, Albert, Thoré, Sobrier, and several other chiefs of the movement, who were lodged in the castle of Vincennes.

— Great fighting at Naples between the troops and the national guard. The lazzaroni, who supported the king, turned the scale in favour of the troops. For eight hours the city was given up to pillage, massacre, and fire. The national guard was abolished.

18. The Emperor of Austria retired from Vienna to Innspruck.

— The German Parliament met at Frankfort.

19. The treaty between Mexico and the United States ratified in the Mexican chamber of deputies at Queretaro by 51 to 35: it was ratified in the senate by 23 to 5 votes.

— The Duke of Sotomayor sends to Sir H. Bulwer, British ambassador at Madrid, his passports, with peremptory orders to quit Spain in forty-eight hours. Sir Henry arrived in London on the 24th inst.

22. The grand jury at the Dublin Commission found a true bill for sedition against Mr. J. Mitchell, editor of the *United Irishman;* the trial lasted till the 26th, when a verdict of *guilty* was returned against the prisoner, who was transported for fourteen years.

27. More barricading and fighting at Vienna, which ended in the success of the insurgent citizens and students; this disturbance arose from the attempt to disband the student guard on the 26th.

— Death of the Princess Sophia at Kensington. She was born Nov. 3, 1777, and was the twelfth child of George III.

28. News from Hamburgh of this date announces the defeat of the German troops by the Danes at Duppeln. General Wrangel had evacuated Jutland.

29. Defeat of the Austrians by the Sardinian army under King Charles Albert at Goito. The battle lasted two days, and ended in the precipitate retreat of the Austrians to Mantua. On the 30th, the fortress of Peschiera surrendered to the Sardinian troops.

29. A Provisional Government appointed at Prague.

30. The perpetual banishment of Louis Philippe and his family decreed in the French National Assembly by 695 to 63. There were at this time 150,000 men employed in the national workshops, and paid by the government.

31. A Congress of Deputies was constituted at Frankfort, to make arrangements for convoking a National Constitutional Assembly; one deputy for every 50,000 inhabitants; any German of age being a qualified elector in his own country, and eligible all over Germany.

June 4. Meetings of the Chartists held in several parts of the eastern districts of London. In Bishop Bonner's Fields the mobs were addressed by Ernest Jones and others in very violent language. During the day there were frequent conflicts with the police, who succeeded in making a great number of arrests. Mr. Fussell, Mr. Joseph Williams, and Mr. Alexander Sharpe, were brought up on the 7th to Bow-street, on a charge of sedition, and committed for trial.

5. A combined attack of the Prussian and Hanoverian forces under General Wrangel was made on the Danish intrenched position at Duppeln. The result of the battle, which was continued on the next day, left the Danes nearly in the same position as before the battle.

7. A law against rioters or armed meetings passed the French National Assembly by 478 to 82.

9. A proclamation of the Provisional Government of Milan states the results of the votes on the question of the union of Lombardy with Piedmont to be 561,002 for immediate union, and 681 for postponing the question till the termination of the war.

— Mehemet Ali, according to letters from Alexandria, was in a state of mental imbecility. Ibrahim Pacha was acting as Regent.

12. From this date till the 17th, there was violent fighting in Prague, between the Czechs and the Germans. The Princess Windischgrätz was shot dead at the commencement of the struggle on the 12th. On the 15th the military abandoned the town, and, commanded by Prince Windischgrätz, began to bombard it. On the 19th, the insurrection was put down, and its leaders placed in the hands of the Prince as hostages.

— Field Marshal Radetsky, after bombarding Vicenza for eighteen hours and forcing it to capitulate, returned to Verona just as the King, Charles Albert, was approaching the latter city with a force of 40,000 men. The King retreated to his former position. Padua surrendered to the Austrians on the 15th. The whole of the Venetian territory, except the city of Venice, was in the hands of the Austrians.

— At the meeting of the Repeal Association the project of uniting with the Confederate Young Irelanders under the name of "the Irish League," was discussed. Mr. John O'Connell was hissed and hooted during his address for dissuading the people from arming.

— Great agitation in Paris in consequence of the election of Prince Louis Napoleon for the department of the Seine and three other departments to the National Assembly. During the day M. Lamartine moved the adoption of a decree to banish the Prince. The discussion on this motion was continued on the next day, and ended in the admission, by a great majority, of the Prince to take his seat in the Assembly.

14. Senor Isturitz, the Spanish ambassador, left London for Spain.

16. Renewed conflicts in Berlin; the people take the arsenal, overpowering the burgher guard and the troops of the line. The mob having equipped itself with arms retired, and the arsenal was retaken by the burgher guard.

18. Lieutenant Edwardes having formed a junction with the forces of the Rajah of Bhawulpoor, engages the army of the Dewan Moolraj, which, after a sanguinary conflict of nine hours' duration, was completely defeated, with the loss of nearly all its artillery.

23. An awful struggle and great loss of life in Paris; the people were engaged against the troops and the national guard. More than 300 barricades were thrown up. The firing continued in all parts of Paris during the night. On the 24th, the troops under Generals Cavaignac and Lamoricière succeeded with immense loss in driving the insurgents from the left bank of the Seine. General Cavaignac had been appointed dictator, and Paris declared in a state of siege. On the 25th, all the positions of the insurgents in the centre of the town were taken. On the 26th, the Faubourg du Temple was carried with cannons and howitzers; the insurgents surrendered, and the whole city was in the evening in the hands of the government. The national losses caused by this outbreak were estimated at 30,000,000 francs; the prisoners arrested amounted to 8,000; the killed and wounded to 16,000; eleven journals were suppressed. The Archbishop of Paris (Denis Affre) was shot by an unknown hand at one of the barricades whilst endeavouring to make peace.

28. At the sitting of the Constituent Assembly in Frankfort, it was resolved that the Provisional central power of the empire be committed to a Lieutenant-General elected by the Assembly, exerting his powers by responsible ministers, but personally irresponsible. Next day the Archduke Johann of Austria was elected Lieutenant-General of Germany.

July 1. The first number of the *Irish Felon* appeared in Dublin.

3. The fusion of Venice with Piedmont proclaimed by the Elective Assembly of Venice. The Austrians were blockading this city with 12,000 men. The Italian fleet was blockading Trieste.

4. The national workshops in France suppressed by a decree published this day in the *Moniteur*.

— Death of M. Châteaubriand in Paris; he was born Sept. 4, 1768.

6. The Archduke Johann receives in Vienna the deputation of the Constituent German National Assembly from Frankfort, and accepts the imperial office of Lieutenant-General of the German empire.

8. Arrest of Mr. Charles Gavan Duffy for felonious writing; Mr. Martin, of the *Irish Felon*, Mr. T. F. Meagher, and Mr. Doheny, were arrested for felonious writings and speeches soon after.

9. Advices from Vienna of this date announce the revolt of Sclavonia and Croatia, under the Ban Jellachich, against Hungary.

11. The Archduke Johann arrived in Frankfort, and was received with great demonstration of joy. He was solemnly installed on the 12th.

— The Sicilian Parliament sitting in Palermo proclaimed in both houses the election of the Duke of Genoa, Alberto Amadeo, as first King of the Sicilians.

13. A distinguished meeting was held at the Hanover-square Rooms, London, for the purpose of originating an institution of nurses on the system of the Sisters of Charity.

18. Dublin, Waterford, and Cork proclaimed under the Crime and Outrage Act.

22. The Austrian Diet opened by the Archduke Johann for the Emperor, who was still at Innspruck.

26. The Irish Lord Lieutenant proclaimed the Confederate clubs illegal. The leaders of the Young Ireland party had dispersed themselves from Dublin to organize clubs in the south-western counties. The Habeas

Corpus Suspension Act arrived in Dublin, and warrants were issued to seize the leaders.

27. News from Italy announces the relief of Mantua, the reinvestment of Peschiera, and that the line of the Mincio was reconquered for a frontier by the Austrians. The Sardinian army had been engaged every day since the 22nd; and though they fought with the greatest bravery, were forced at last to retreat towards Milan.

28. At a Privy Council held in Dublin Castle, proclamations were agreed to, offering for the arrest of Mr. S. O'Brien, M.P. a reward of 500*l.*; and 300*l.* each for the arrest of Meagher, Dillon, and Doheny.

29. Engagement between the Irish rebels, under Mr. S. O'Brien, and the police in the widow M'Cormack's house, near Ballingarry. The insurgents had seven killed and several wounded. A great number of arrests were made in Dublin and the Provinces. The *Nation* and *Irish Felon* newspapers were suppressed; their presses seized, types smashed, and their private papers carried off for government inspection.

Aug. 1. The suspension bridge across the Niagara Falls opened.

4. The Sardinians who had retreated to Milan capitulated to the Austrian Field Marshal Radetsky.

5. Arrest of Mr. W. S. O'Brien, M.P. at the railway station at Thurles; he was immediately conveyed to Kilmainham gaol, Dublin.

12. Mr. Kevin O'Dogherty's first trial for felony concluded by the disagreement of the jury. A second trial on the 19th, ended with a similar result.

— Arrest of Messrs. Meagher, O'Donoghue, and Leyne.

— The Emperor of Austria arrived in Vienna from Innspruck.

14. Mr. John Martin found guilty at the commission in Dublin for felonious writing. He was sentenced to ten years' transportation.

— A meeting was held in Dublin, presided over by Lord William Fitzgerald, at which resolutions were passed to form a society to advocate "the holding of a portion of each session of parliament in Dublin."

15. Great festivities at Cologne on the occasion of the sixth centenary of the foundation of the cathedral. The Archduke Johann and the King of Prussia were present.

— Sale of the Duke of Buckingham's property at Stowe commenced.

16. Arrest of twenty Chartist leaders by the police in the Angel tavern, Webber-street, Blackfriars-road; eleven others were arrested in Orange-street, Holborn. In Manchester and Birmingham also there were several arrests made about this time.

17. The city of Albany, in the state of New York, in great part destroyed by fire.

24. The Ocean Monarch, American emigrant ship, left Liverpool with 396 passengers on board. She had not advanced far into the Irish Channel, when she took fire, and in a few hours was burnt to the water's edge. The Brazilian stream frigate Affonso, which was out on a trial trip, with the Prince and Princess de Joinville, and the Duke and Duchess d'Aumale on board, rendered the most important service in rescuing 156 persons from their dreadful situation; 62 others escaped by other means. All the rest, 178 in number, perished.

25. The trials for sedition commenced at the Central Criminal Court, London.

— The National Assembly of France authorize the prosecution of MM. Louis Blanc and Caussidière as participators in the affairs of May 15 and June 23. Both these gentlemen left the assembly during the debate, and fled ultimately to England.

26. An armistice between the Danes and Prussians signed at Malmo, to continue till March 1849.

29. A severe action was fought between the Queen's troops, under Sir Harry Smith, Governor of the Cape of Good Hope, and the Dutch Boers under Pretorius at Bloem Platts. The battle ended in the rout and dispersion of the rebels.

30. Mr. M'Manus arrested for participating in the late Irish insurrection; he was taken on board a vessel in Cove Harbour, which was about to sail to America.

Sept. 1. Lord J. Russell landed in Dublin. After visiting the Lord Lieutenant and the Bedford estates in Meath, his lordship left Dublin on the 9th for Glasgow.

— Ibrahim Pasha was invested by the Sultan in Constantinople with the Pashalic of Egypt.

5. Her Majesty Queen Victoria embarked at Woolwich for Aberdeen *en route* for Balmoral, her residence in Scotland.

— The National Assembly at Frankfort resolved by 238 to 221, to suspend the measures for executing the armistice of Malmo.

7. Messina taken by the Neapolitan forces after five days' continued bombardment, by which the city was almost entirely destroyed.

14. Reports of renewed insurrection in the Slievenamon district in Ireland. The Glenbower and Portlaw police stations were attacked by about 4000 men, said to be commanded by Messrs. Doheny and O'Gorman; the insurgents were easily repulsed. The Waterford mail had been stopped on Granagh Bridge.

— The Duchess de Montpensier gave birth to a daughter at Seville.

16. The armistice of Malmo sanctioned by the Frankfort Assembly, by 257 to 236. The announcement of this rescinding the resolution of the 5th instant immediately caused a violent commotion in Frankfort, and the majority were denounced as traitors. On the 17th a monster meeting was held, and violent speeches spoken, after which barricades were erected in different parts of the town; and on the 18th a fierce struggle took place between the people and the Prussian and Hessian troops, which, to the number of 10,000, had been called into the city. The contest raged from 2 to 8½ p. m.; great numbers were slain; among them Prince Lichnowski, a member of the Assembly, and General Von Auerswald. The insurrection was finally suppressed.

20. Prince Louis Napoleon Bonaparte returned by an immense majority as one of the representatives of the department of the Seine to the National Assembly. He was at the same time elected for five other departments of France. He took his seat on the 26th.

— Advices from Madrid announce the entrance of large bodies of insurgents in the interests of the Conde de Montemolin by the passes of the Pyrenees into the north of Catalonia.

21. Trial of the Irish insurgents commenced at Clonmel.

— Death of Lord G. Bentinck from spasm of the heart. He was born Feb. 27, 1802.

— Armistice between Sardinia and Austria. It was subsequently prolonged till the 22nd of October.

22. A banquet held by the Red Republicans in Toulouse, to celebrate the revolution of 1793. Similar banquets frequent at this time in France.

— Gen. Whish obliged to raise the siege of Mooltan in consequence of the desertion of Shere Singh with a force of 5,000 men.

27. The National Assembly of the French Republic decided for a single legislative chamber by 530 to 289.

28. Field Marshal Count Lamberg, who was appointed Special Military Commissioner for Hungary by the Emperor, was openly killed on the bridge of Buda-Pesth. Ban Jellachich was approaching Buda with a large army.

29. A battle fought at Valaneze, near Buda-Pesth, between the Hungarians and the Ban of Croatia, in which the latter was defeated.

30. The Chartist trials in London concluded. Dowling, Cuffey, Fay, and others, were transported for life.

Oct. 6. An insurrection took place in Vienna; the minister of war, Count Latour, was assassinated; the capital, together with the arsenal, were in the hands of the insurgents; the constituent assembly declared itself permanent. On the morning of the 7th, the Emperor left Schönbrunn; he arrived on the 14th at Olmutz. The Ban Jellachich was advancing to Vienna with 30,000 men.

9. Smith O'Brien sentenced to death. The trials of Messrs. Meagher, M'Manus, and O'Donoghue, ended with a similar result. A writ of error was entered for each of the convicts.

16. The Emperor of Austria issues a proclamation appointing Prince Windischgrätz commander-in-chief of all the forces of the empire except the army in Italy, and expressing his determination to put down by force the anarchical party now in rebellion against his authority in Vienna.

20. A decree in the Moniteur relieves Paris from the state of siege. The state of siege had continued since June 24.

25. The Lord Mayor of London gave a reception in the Mansion House to 300 national guards of Paris, whose commandant expressed the gratitude of the gallant body for the hospitable reception they had met with in London.

— The National Assembly of the French Republic voted a decree for the restoration of their private domains to the Orleans family, subject to the claims of creditors.

27. Accounts from Turin announce the Valtellina in full insurrection against Austria.

28. Prince Windischgrätz commences the attack on Vienna. The imperial troops, under the Prince, Jellachich, Auersperg, and other leaders, amounted to above 75,000 men. The contest continued till Nov. 1, when the imperial troops were in possession of the entire city. The Hungarian army sent to assist the insurgent citizens was defeated.

Nov. 1. Conviction of Mr. Kevin J. O'Doherty for felony at the Commission in Dublin. He had been twice tried before for the same crime, and the juries disagreed.

XIX.—BANKRUPTCY ANALYSIS.

From November 5, 1847, to November 3, 1848.

Apothecaries, 8. Attorneys, 12. Auctioneers, 11. Bakers, 27. Bankers, 14. Beer-sellers, 7. Booksellers, 24. Boot and Shoemakers, 24. Brewers, 32. Brick-makers, 15. Brush-makers, 5. Builders, 112 Butchers, 18. Calico Printers, 6. Carpenters, 35. Carvers and Gilders, 5. Cattle and Horse Dealers, 21. Cheesemongers, 15. Chemists, &c., 31. Coach Makers, 9. Coach Proprietors, 10. Coal Merchants, 26. Coffee-house Keepers, 2. Commission Agents and Factors, 56. Coopers, 2. Corn Merchants, 37. Cotton Manufacturers, 27. Curriers, 13.

Drapers, 81. Dyers, 6. Earthenware Manufacturers and Dealers, 16. Engineers, 19. Engravers, 6. Farmers, 14. Fishmongers, 4. Flax Spinners, 2. Flour Dealers, 7. Grocers, 127. Hardwaremen, 30. Hat and Cap Makers, 12. Hop Merchants, 3. Hosiers, 17. Ironmongers and Founders, 64. Jewellers, &c., 9. Leather Sellers, 12. Lightermen and Wharfingers, 4. Linen Drapers, 32. Maltsters, 11. Market Gardeners, 12. Masons, 18. Merchants, 102. Millers, 14. Milliners, 6. Music Sellers, 8. Oilmen, 6. Painters, &c., 27. Paper Makers, 6. Pawnbrokers, 3. Pianoforte Makers, 8. Printers, 18. Railway Contractors, 4. Saddlers, 14. Scriveners, 10. Seedsmen, 3. Ship Builders, 6. Silk Manufacturers, 7. Silk Mercers, 5. Soap Makers, 5. Stationers, 14. Stock Brokers, 13. Straw Plait Dealers, 6. Surgeons, 20. Tailors, 47. Tallow Chandlers, 5. Tanners, 9. Timber Dealers, 21. Tobacconists, 12. Victuallers, 164. Underwriters, 7. Upholsterers, 20. Watchmakers, 15. Wine and Spirit Merchants, 53. Wool Dealers, 3. Woollen Manufacturers, 29. Various, 107.—Total, 1,907.

XX.—NECROLOGICAL TABLE

1847.	OF LITERARY MEN, ARTISTS, &c.	Age
Nov. —	Dibdin, Rev. Thos. Frognall, Biography, &c.	—
26.	Elmes, Harvey Lonsdale, architect, St. George's Hall, Liverpool	34
28.	Ewbank, J. W., artist	68
Dec. 11.	Barker, Thomas, artist	79
18.	Pampaloni, Luigi, Italian sculptor	
24.	Magnusen, Finn, Danish writer on Icelandic literature, &c.	65
26.	Nelson, J. H., sculptor	47
29.	Crotch, Dr. William, music	72
1848.		
Jan. 9.	Herschel, Caroline Lucretia, astronomy	97
14.	Wright, J. W., water colour painter	45
19.	Disraeli, Isaac, 'Curiosities of Literature,' &c.	82
—	Christian VIII. of Denmark	62
29.	Goerres, Joseph, German political writer	73
—	Dyer, Chas., architect, Victoria Rooms, Bristol	54
Feb. 13.	Knorring, Baroness, popular Swedish novelist	51
Mar. 57.	Jackson, John, wood engraver	47
—	Nixon, W., Scotch architect	38
April 2.	Meyrick, Sir Sam. Rush, 'History of Ancient Armour,' &c.	65
8.	Donizetti, Gaetano, musical composer	51
June 27.	Zschokke, Heinrich, History, Criticism, and Fiction	78
July 4.	Chateaubriand, François Augusta, 'Génie de Christianisme'	79
25.	Cramer, François, musician	76
Aug. 3.	Nicolas, Sir Nicholas Harris, 'History, Antiquities, and Genealogy'	49
7.	Berzelius, Jacob, celebrated Swedish chemist	69
9.	Marryat, Captain, popular novelist	58
22.	Stephenson, George, eminent engineer	67
Oct. 21.	Bentinck, Lord George	47
15.	Tennant, W., 'Anster Fair,' and other poems	64

ALFRED SWEETING, PRINTER, BARTLETT'S BUILDINGS, LONDON.